AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

1 OF 7
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(6)

AN/TPS-59(XN-1) EDM
RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D
ENGINEERING DEVELOPMENT MODEL.

PRE-SERVICE ACCEPTANCE TEST REPORT.

VOLUME II.

APPENDICES.

(11) 29 April 1977

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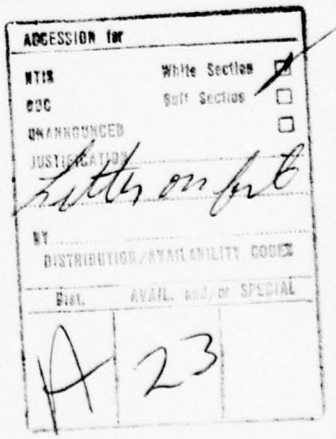
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APPENDIX A

FLIGHT TEST PROCEDURE

APPENDIX A

FLIGHT TEST PROCEDURE

1.0 Pre-Flight Procedures

Prior to the start of the flights on a given day, the following data will be collected and witnessed by the Government.

1.1 Phase Measurement Program

This program is a modified version of the phase measurement program used to calibrate the array. It collects amplitude data on each row receiver (sum and delta azimuth) at frequency F7. The intent of this test is to provide the status of these receivers by examining the amplitude of the return signal. The eighth column from the left on the TTY printout is the amplitude of the sum receivers, and the tenth column is the amplitude of the delta azimuth receivers. In order to determine whether or not a given preamp has failed, the amplitude should be normalized to the highest amplitude in the column, and converted to dB (20 log of the ratio). This number is compared to the corresponding criteria in Table A. An amplitude less than the criteria indicates a failed preamp. Results of this test will be noted on the status summary sheet for each day's flights. The TTY printout will become part of the flight test log.

1.2 Loop B-9 - Monopulse Alignment

This program checks the monopulse alignment of the short-range LFM preprocessor. The TTY output consists of a listing of sum, azimuth and elevation data. The parameters of interest are labeled SUM, AZ and EL. The sum mean should be greater than 60, and the Az and El numbers should be less than ± 0.25. An indication of compliance will be made on the status summary sheet, and the TTY printout will become part of the flight test log.

1.3 Loop B-15 - Monopulse Alignment

This program checks the monopulse alignment in the preprocessor of the four long-range sub-pulses. The output of the test, on the TTY, is a listing of sum, azimuth and elevation data. The parameters of interest are the SUM, the AZ-1 through AZ-4 and the EL-1 through EL-4. The sum mean should be greater than 160. The AZ and EL numbers should be less than ± 0.25. An indication of compliance will be made

on the summary sheet, and the TTY printout will become part of the flight test log.

1.4 Fault Location (FFT, MTI, S/SPDC, WFG/PP only)

The Fault Location Program will be run through 64 cycles. Only the portions of FL that exercise the above hardware will be enabled. At the end of 64 cycles, if no faults have been detected, the TTY will print out FLSTOP and the program will cease cycling. This event will be noted on the summary sheet and the TTY printout will become part of the flight test log.

1.5 Performance Monitor Tests

After the completion of 1.1-1.4, the tactical software will be loaded into the computer. After a three minute system warm-up, agile frequencies f1-f7 will be enabled. Frequencies higher than f7 cannot be used because of FAA restrictions. Blanking will occur in a region from approximately due north to due south. This is necessary because of interference with an FAA radar located to the northeast of the site, and the PAMS computer located to the southeast of the site.

Performance Monitor listings D2 and D6 will be requested at the TTY. The D2 listing provides further status of the signal processor in the four regions, i.e. long-range LFM, short-range simple pulse, short-range LFM and the MTI LFM. The D6 listing provides the status of each row transmitter. Nominal value of 60 are expected; values below 40 will be considered failed. The results of the listings will be entered on the summary sheet, and the TTY listings will become part of the flight test log.

1.6 Power Supply Checks/Time Meter Readings

All power supplies in units 5, 6 and 7 will be checked using the manual meters and switches provided in each unit. Also, all time meters will be read and recorded on the status summary sheet.

2.0 In-Flight Procedures

For each leg of each flight, the following data will be collected in addition to that recorded on magnetic tape.

2.1 Flight Test Data Sheet

All entries will be completed on this data sheet for each flight. Flight ID numbers will be derived from the flight listed in the Acceptance Test Plan, 4.1.2, i.e. the first leg of flight F3 will be noted as F3-a. Height, velocity and azimuth headings shall be the nominal values for the particular flight. The start and stop ranges will be those recorded using the radar.

2.2 Blip/Scan Data Sheet

During each flight, blip/scan data will be collected. The range and height of each return will be recorded. Those instances when no DTM's or multiple DTM's are observed should be noted on the data sheet as a number. No radar detections will be annotated as ND. An operator error that results in a missed tag will be labeled NT. A conflict with other aircraft will be noted as BY. A potential tag on a wrong aircraft will be labeled WAC. If a PM message occurs during a flight, the scan where the error indication occurred will be noted, along with the PM message. The flight leg will continue at the discretion of the Test Director. The TTY outputs will be made part of the flight test log. Any error causing a PM message must be cleared before resuming flight tests, unless waived by agreement between the GE Test Director and NAVELEX. An error analysis will be performed in accordance with the ATP 4.1.1 and the data disposition determined.

All data will become part of the flight test log.

3.0 Post-Flight Procedures

Upon completion of the last leg of a flight for a given day, the following data will be collected and witnessed by the Government.

3.1 Performance Monitor Tests

With the tactical software still running, a D2 and D6 listing will be requested. Results will be summarized in the post-test summary sheet, and the listings will become part of the flight test log.

3.2 Fault Location

Run the same as Section 1.4.

3.3 Loop B-15 - Monopulse Alignment

Run the same as Section 1.3.

3.4 Loop B-9 - Monopulse Alignment

Run the same as Section 1.2

3.5 Phase Measurement Program

Run the same as Section 1.1.

Preamp Pass/Fail Criteria (Phase Measurement Prog.)

Row	Pass/Fail
1	-18.5
2	-17.75
3	-16.75
4	-16.0
5	-15.5
6	-14.5
7	-14.0
8	-13.25
9	-12.5
10	-12.0
11	-11.25
12	-10.75
13	-10.0
14	-9.75
15	-9.25
16	-8.75
17	-8.25
18	-8.0
19	-7.75
20	-7.50
21	-7.25
22	-7.0
23	-7.0
24	-6.75
25	-6.5
26	-6.5
27	-6.5
28	-6.5
29	-6.5
30	-6.5
31	-6.75
32	-6.75
33	-7.0
34	-7.25
35	-7.50
36	-8.0
37	-8.25
38	-8.75
39	-9.25
40	-9.5
41	-10.0
42	-10.75
43	-11.5
44	-12.0
45	-12.5
46	-13.25
47	-14.0
48	-14.75
49	-15.5
50	-16.0
51	-17.0
52	-18.0
53	-19.0
54	-19.5

TABLE A

APPENDIX B

PRE/POST FLIGHT SYSTEM STATUS SUMMARIES
AND
MANUAL BLIP/SCAN DATA

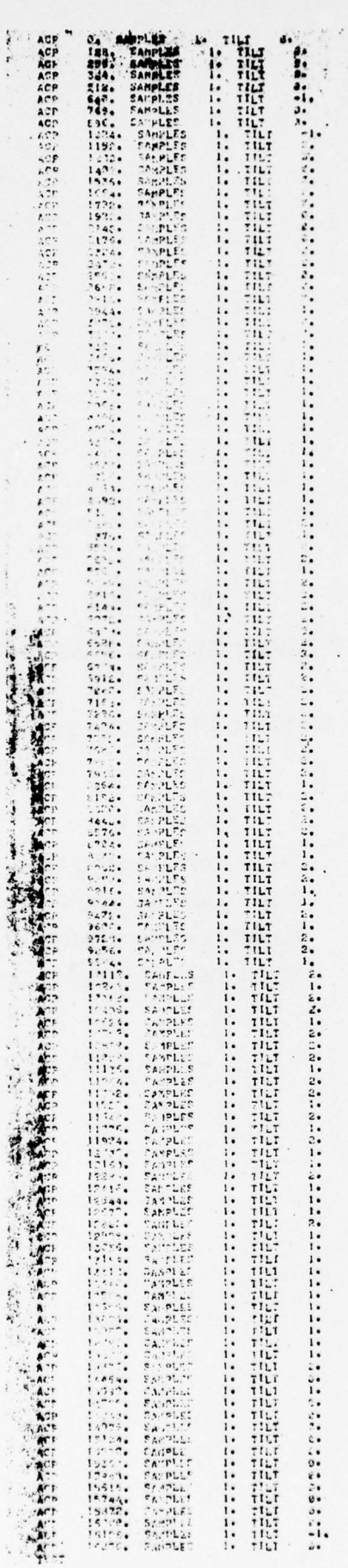
Arranged by:

Flight Test Day 6/1/76

Flight Test Day 6/2/76

Flight Test Day 6/3/76

Flight Test Day 6/4/76



FLIGHT TESTS 6/1/76

CONFIGURATION 71 STATUS

1. IFF & TADC - OFF
   TILT & TEMP - ON
2. MC INTERVAL 5 MINUTES
3. RADAR HEIGHT - 470 ft. — GRAZING ANGLE - 0°
4. N_S - 324
5. FREQUENCIES - 2 → 7
6. SPECIAL INPUTS:

AZ BLANKING	DL	6656	ACP's
	DU	14848	ACP's
RAD EL BIAS	P3	-47	2^{-13} RAD

7. NORTH BIAS (C2) INCLUDING 100° BIAS — 5041 ACP's.
8. PM ON EXCEPT:

	CMDS	DS
CLUTTER SUPPRESSION	287, 287A	61, 62
MONO - TESTS	32.XX, 33.XX	32.01 → 32.40, 33.41
XMIT GAIN	206 A-D	44.04, 44.09, 44.14, 44.19
SET 3	33 - 43	36 - 43
DCDC STATUS	—	133
SENSITIVITY	—	70

FL

MTI ON

FFT ON

WG/PP ON

S/SPDC ON except DS 833 (INTERMITTENT, PROBLEM UNKNOWN, NO operational impact)

ACU Data Xfer ON

ACU STAT ON

BSC/FR OFF

XMIT

RCV

ϕ shift

Tilt

ACU AUTO

ARRAY ERROR

AUTOMATIC FAULT STATUS
0010100000000000140000000000000000

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

6/1/76
PREFLIGHT
21:47

	MEAN	STD
AZ	-.001	.026
EL	.338	.323
SUM	56.73	1.46
PC	751.19	4.0
SUM -I	34.42	1.32
SUM -Q	56.73	1.53
D AZ-I	35.71	1.09
D AZ-Q	59.39	2.07
D EL-I	25.13	3.96
D EL-Q	64.74	1.14

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 6/1/7-

Time 2120

1. Phase Measurement Program

Rows Out

Σ	ΔAz
3, 41, 45	5

Total # of Σ Rows Out 3

Sensitivity Loss (10 log n/54) -.25 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing ✓ OK

6. PM D6 Listing

Tx Rows Out

21, 38, 40, 41, 44, 53

(51 low (39))

Total # of Tx Rows Out 6

Sensitivity Loss (20 log n/54) -1.02 dB

Total Sensitivity Loss -1.27 dB

Power Supply Checks

Unit 5 OK

Unit 6 OK

Unit 7 OK

Time Meter Readings

Array 5240.8

Cont. Shelter 6032.7

Proc. Shelter 6247.5

GE Test Director [signature]

Gov't Witness [signature]

6/1/76

2235

D6

ROW PERFORMANCE

ROW OUTPUT ([illegible]) : 7

1:	65	2:	59	3:	64	4:	64
5:	60	6:	58	7:	51	8:	70
9:	53	10:	62	11:	70	12:	47
13:	62	14:	55	15:	48	16:	50
17:	66	18:	61	19:	61	20:	61
21:	8	22:	32	23:	60	24:	62
25:	59	26:	61	27:	60	28:	57
29:	57	30:	55	31:	57	32:	53
33:	47	34:	51	35:	54	36:	54
37:	53	38:	9	39:	45	40:	15
41:	31	42:	123	43:	55	44:	16
45:	60	46:	56	47:	47	48:	72
49:	56	50:	42	51:	39	52:	58
53:	25	54:	56				

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

6/1/76

22:35

D2

PROCESSOR RESPONSE

LR - LFM	(143 MIN)	208
SR - SP	(47 MIN)	137
SR - LFM	(47 MIN)	79
MTI - LFM	(13 MAX)	5

6/1/76
PRE FLIGHT
21:46

FLSTOP 64 CYCLES

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

6/1/76
PRE FLIGHT
21:50

	MEAN	STD
AZ	.018	.279
EL	- .066	.010
SUM	195.59	1.31
RG	3318.58	0.0
AZ - 4	.156	.024
EL - 4	- .071	.017
SUM -I4	42.71	3.69
SUM -Q4 -	26.99	0.55
D AZ-I4	42.68	0.72
D AZ-Q4 -	21.16	3.99
D EL-I4	41.63	0.81
D EL-Q4 -	32.82	0.49
SUM - 4	56.77	0.70
AZ - 3	.353	.212
EL - 3	- .098	.319
SUM -I3	45.00	0.0
SUM -Q3	1.03	0.19
D AZ-I3	50.64	0.81
D AZ-Q3	3.89	0.61
D EL-I3	46.39	0.45
D EL-Q3 -	3.55	0.39
SUM - 3	45.35	0.19
AZ - 2	- .139	.069
EL - 2	- .059	.010
SUM -I2	11.00	0.00
SUM -Q2	43.45	0.49
D AZ-I2	17.96	0.27
D AZ-Q2	44.14	0.80
D EL-I2	15.25	0.99
D EL-Q2	48.00	0.0
SUM - 2	48.46	0.31
AZ - 1	.003	.021
EL - 1	- .037	.026
SUM -I1	41.48	0.35
SUM -Q1 -	8.67	0.74
D AZ-I1	55.85	0.51
D AZ-Q1 -	11.50	0.80
D EL-I1	47.23	0.56
D EL-Q1 -	11.72	0.95
SUM - 1	45.32	0.93

(1)

AN/TPS-59 FLIGHT TEST

Date 6/1/76 Flight # 1A, 2A

Time 2250 Starting Range 25

Freq. (f#) 2-7

Range Hitting

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
PM 1 29	25	449	PM 26 29	47	420	51	70	418	76	92	416
2	26	465	27	48	411	52	70	408	77	92	406
3	R		28	49	413	53	71	424	78	93	411
4	27	426	29	50	414	54	72	415	79	94	392
5	R BY		PM 30 29	51	419	55	73	420	80	ND	
6	BY		31	52	416	56	74	419	81	96	431
7	R		32	53	423	57	75	419	82	97	416
8	R		33	54	416	58	76	427	83	98	418
9	R		34	55	433	59	77	420	PM 84 29	99	435
10	R		35	55	425	60	77	404	85	100	414
11	34	416	36	56	412	61	78	419	86	101	417
12	35	420	37	57	420	62	79	419	87	102	434
13	36	414	38	58	410	63	80	421	88	102	410
14	37	418	39	59	413	64	81	419	89	103	400
15	38	420	40	60	415	65	82	421	90	104	408
16	39	421	41	61	414	66	83	420	PM 91 29	105	416
17	40	419	42	62	423	67	84	423	92	106	420
18	40	418	43	62	416	68	84	424	93	107	420
19	41	416	44	63	415	69	85	411	94	108	416
20	42	415	45	64	416	70	86	438	AM 95 CIPA	109	413
21	43	413	46	65	418	71	87	406	96	110	415
22	44	426	47	66	400	72	88	413	97	111	409
23	45	418	48	67	415	73	89	409	98	112	416
24	46	417	49	68	411	74	90	426	99	113	419
25	47	419	50	69	410	75	91	410	100	114	400

(2)

AN/TPS-59 FLIGHT TEST

Date 6/1/76 Flight # 1A & 2A

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	115	391	26	138	414	51	161	410	76	184	371
2	116	398	27	139	398	52	162	400	77	ND	
3	116	401	28	140	402	53	163	399	78	186	378
4	117	419	29	141	394	54	164	410	79	ND	
5	118	409	30	142	354	55	165	398	80	187	434
6	119	423	31	143	425	56	165	398	81	188	408
7	120	403	32	144	407	57	166	373	82	189	425
8	121	396	33	145	414	58	ND		83	ND	
9	122	381	34	2		59	2		84	191	374
10	123	400	35	(2) 146	410	60	169	440	85	ND	
11	124	404	36	147	400	61	170	444	86	193	360
12	125	390	37	148	388	62	ND		87	194	441
13	126	391	38	149	394	63	ND		88	ND	
14	127	3437	39	150	422	64	ND		89	196	432
15	128	434	40	151	394	65	ND		90	197	470
16	129	414	41	152	426	66	175	425	91	198	468
17	139	398	42	153	430	67	176	400	92	ND	
18	141	418	43	154	403	68	176	439	93	ND	
19	142	391	44	155	400	69	177	410	94	201	466
20	143	416	45	155	409	70	178	405	95	202	414
21	133	399	46	156	435	71	179	400	96	ND	
22	134	438	47	157	365	72	180	430	97	203	515
23	135	409	48	158	424	73	181	369	98	204	369
24	136	416	49	159	436	74	182	426	99	205	346
25	137	408	50	160	389	75	183	416	100	2	
										207	440
										ND	
										ND	

(1)

AN/TPS-59 FLIGHT TEST

Date 6/.176 Flight # 16 & 26

Time 2330 Starting Range 209 mi.

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	209	480	26	184	341	51	155	426	76	126	396
2	ND		27	183	493	52	154	413	77	125	403
3	ND		28	ND		53	153	399	78	124	403
4	ND		29	ND		54	152	434	79	123	401
5	ND		30	179	385	55	150	408	80	122	406
6	204	419	31	178	411	56	149	413	81	20	400
7	ND		32	177	428	57	148	426	82	119	411
8	202	344(MT)	33	176	361	58	147	449	83	118	407
9	201	466	34	ND		59	146	453	84	117	379
10	199	391	35	ND		60	145	410	85	116	396
11	ND		36	172	405	61	143	421	86	115	445
12	ND		37	171	396	62	142	415	87	113	408
13	ND		38	170	409	63	141	401	88	112	374
14	196	433	39	169	431	64	140	419	89	111	391
15	195	401	40	168	388	65	139	436	90	110	410
16	ND		41	167	328	66	138	404	91	109	403
17	193	435	42	165	379	67	136	426	92	107	389
18	192	415	43	164	411	68	135	403	93	106	405
19	191	458	44	163	416	69	134	409	94	105	410
20	190	455	45	162	393	70	3		95	104	383
21	189	480	46	161	378	71	132	416	96	103	414
22	188	404	47	160	378	72	131	398	97	2	
23	187	444	48	159	399	73	129	395	98	100	404
24	186	429	49	157	400	74	128	399	99	99	378
25	185	421	50	156	411	75	127	413	100	98	400

(0.5Q)

(2)

AN/TPS-59 FLIGHT TEST

Date 6/1/76 Flight # 15 & 26

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	97	403	26	62	411	51	40	411	76		
2	96	413	27	61	408	52	38	418	77		
3	95	426	28	60	389	53	37	416	78		
4	94	394	29	65	413	54	2		79		
5	ND		30	63	429	55	35	411	80		
6	91	403	31	62	419	56	2		81		
7	90	413	32	61	414	57	33	412	82		
8	89	391	33	60	413	58	2		83		
9	88	415	34	59	409	59	31	2 413	84		
10	87	415	35	58	415	60	2		85		
11	85	403	36	57	406	61	28	431	86		
12	84	406	37	55	418	62	27	419	87		
13	83	419	38	54	416	63	26	425	88		
14	82	405	39	53	414	64	25	463	89		
15	81	413	40	52	413	65	24	439	90		
16	80	429	41	51	410	66	23	424	91		
17	78	431	42	50	414	67	2		92		
18	77	409	43	49	415	68	0		93		
19	76	415	44	47	414	69			94		
20	75	413	45	46	414	70			95		
21	74	415	46	45	414	71			96		
22	73	415	47	44	411	72			97		
23	24c B	Y	48	43	411	73			98		
24	24c B	Y	49	42	418	74			99		
25	69	406	50	41	416	75			100		

1/2

AN/TPS-59 FLIGHT TEST

Date 6/1/76 Flight # 1c & 2c

Time 2355 Starting Range 25

Freq. (f#) 2 → 7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	25	449	26	52	415	51	80	428	76	109	395
2	25	466	27	53	424	52	81	420	77	110	389
3	26	478	28	54	419	53	82	423	78	111	400
4	2		29	55	416	54	83	421	79	112	451
5	28	426	30	55	420	55	84	405	80	112	388
6	29	433	31	56	411	56	85	424	81	113	405
7	2		32	57	401	57	85	388	82	114	368
8	2		33	58	409	58	86	393	83	115	400
9	2		34	59	406	59	87	410	84	116	386
10	2		35	59	408	60	88	408	85	117	413
11	2		36	60	410	61	89	401	86	118	415
12	33	419	37	61	423	62	90	405	87	118	398
13	34	419	38	62	420	63	90	425	88	119	400
14	35	423	39	63	423	64	91	408	89	120	420
15	2		40	64	420	65	92	421	90	121	405
16	37	415	41	64	409	66	93	419	91	122	401
17	37	420	42	65	410	67	94	408	92	123	396
18	38	418	43	66	409	68	95	413	93	124	413
19	39	420	44	67	408	69	96	408	94	125	395
20	40	421	45	68	420	70	96	418	95	2	
21	41	414	46	69	413	71	97	406	96	126	385
22	41	424	47	69	415	72	98	419	97	127	348
23	42	425	48	70	415	73	99	416	98	128	403
24	43	423	49	71	414	74	100	448	99	129	428
25	44	420	50	72	423	75	101	391	100	130	409
	45	419		73	421		101	453		131	401
	45	421		74	415		102	400		131	414
	46	418		74	419		103	405		132	411
	47	413		75	401		104	411		133	418
	48	414		76	415		105	405		134	420
	49	416		77	413		106	409		135	418
	50	416		78	406		107	385		136	420
	50	418		79	426		107	401		137	411
	51	414		80	436		108	405		138	386

2/2

AN/TPS-59 FLIGHT TEST

Date 6/1/76 Flight # 1C & 2C

Time 2355 Starting Range _____

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	139	409	26	169	379	51	ND		76		
2	2		27	170	423	52	ND		77		
3	140	395	28	170	406	53	ND		78		
4	141	406	29	171	406	54	ND		79		
5	142	439	30	172	436	55	ND		80		
6	143	409	31	173	403	56	ND		81		
7	144	421	32	174	384	57			82		
8	145	431	33	175	414	58			83		
9	145	376	34	176	403	59			84		
10	146	415	35	177	381	60			85		
11	147	408	36	178	433	61			86		
12	148	418	37	179	403	62			87		
13	149	343	0838	180	394	63			88		
14	ND		39	180	368	64			89		
15	ND		40	181	393	65			90		
16	152	434	41	182	369	66			91		
17	153	434	42	183	393	67			92		
18	153	390	43	ND		68			93		
19	154	401	44	185	405	69			94		
20	155	398	45	186	481	70			95		
21	156	390	46	187	514	71			96		
22	157	415	47	188	440	72			97		
23	158	434	48	189	399	73			98		
24	159	414	49	190	456	74			99		
25	160	425	50	191	451	75			100		
	161	399		192	410						
	161	414		193	486						
	162	424		194	451						
	163	391		194	441						
	164	449		ND							
	165	421		ND							
	166	401		ND							
	167	420		ND							
	168	444		199	436						

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 2D

Time 0032 Starting Range 189

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	161	408	51	132	398	76		
2	188	391	27	160	425	52	131	408	77		
3	187	380	28	159	400	53	130	394	78		
4	186	445	29	158	440	54	129	416	79		
5	185	378	30	157	393	55	127	390	80		
6	184	373	31	156	406	56	126	414	81		
7	183	389	32	154	410	57	125	411	82		
8	182	363	33	153	415	58	124	396	83		
9	181	420	34	152	388	59	123	395	84		
10	180	394	35	ND		60	121	391	85		
11	179	421	36	150	310	61	120	386	86		
12	178	356	37	149	394	62	119	414	87		
13	176	395	38	147	381	63	118	398	88		
14	175	403	39	146	426	64			89		
15	174	366	40	145	398	65			90		
16	173	415	41	144	403	66			91		
17	172	395	42	143	404	67			92		
18	171	401	43	142	439	68			93		
19	170	396	44	140	396	69			94		
20	168	428	45	139	399	70			95		
21	167	430	46	138	419	71			96		
22	166	371	47	137	2	72			97		
23	165	393	48	136	421	73			98		
24	164	424	49	134	396	74			99		
25	163	428	50	133	414	75			100		

AN/TPS-59 FLIGHT TEST

Flight Terminated

Date 6/2/76 Flight # 3A

Time 0855 Starting Range _____

Freq. (f#) 2-7

Lost FPS 16 recording

JAF

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	120 2		~~26~~	127	414	51	151	390	76		
~~2~~	121	394	~~27~~	128	409	~~52~~	152	430	77		
3	121	406	~~28~~	129	400	53	153	421	78		
4	121	421	~~29~~	130	429	54	153	460	79		
5	121	414	30	131	393	55	154	420	80		
6	122	414	31	132	408	56	155	421	81		
7	122	414	32	133	416	57	156	393	82		
8	122	406	33	134	408	58	C		83		
9	122	401	34	134	420	59	ND		84		
10	122	419	35	135	401	60	158	413	85		
11	122	398	36	136	398	~~61~~	159	403	86		
12	122	398	37	137	418	~~62~~ ERR			87		
13	122	391	38	138	434	63	160		88	BREAKOVER	
14	123	351	39	139	424	64			89		
15	123	413	40	140	400	65			90		
16	123	445	41	141	408	66			91		
17	123	401	42	142	396	67			92		
18	123	394	43	143	434	68			93		
19	123	379	44	144	371	69			94		
20	124	413	45	ANT		70			95		
21	124	~~4~~35	46	145	395	71			96		
22	124	410	47	147	385	72			97		
23	125	405	48	148	421	73			98		
24	126	401	49	149	356	74			99		
25	126	376	50	150	354	75			100		

AN/TPS-59 FLIGHT TEST

Pg 1/2

Date 6/2/76 Flight # 7a

Time 0230 Starting Range 16

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	0		26	35	19.8	51	54	20,3	76	73	20,9
2	ND		27	36	19.6	52	55	20,5	77	74	20,8
3	ND		28	37	20,5	53	56	20,6	78	75	20,0
4	ND		29	38	20,3	54	57	19.5	79	ND	
5	ND		30	38	20,1	55	57	19.9	80	76	20,5
6	NT	(20.0	20.0) 31	39	20,4	56	58	20,0	81	77	18.9
7	21	20.3	32	40	20.3	57	59	20,4	82	78	20,0
8	21	20.3	33	41	20,4	58	60	19,8	83	78	19.3
9	22	20,4 (NT.)	34	41	20,6	59	60	18,9	84	0	
10	23	20,5	35	42	20,5	60	61	20,0	85	80	18,9
11	24	20,0	36	43	20,0	61	62	19,8	86	81	20,0
12	24	20,4	37	44	19,6	62	63	18,5	87	81	20,8
13	25	20.3	38	44	20,0	63	63	20,0	88	82	20.4
14	26	20,3	39	45	19,5	64	64	20,8	89	83	20,0
15	27	20,4	40	46	20,3	65	65	19.5	90	84	21.8
16	27	20,1	41	47	19,6	66	66	20,4	91	84	19,8
17	28	19.8	42	48	19,6	67	66	19,4	92	85	21,1
18	29	20,3	43	48	20,5	68	ND		93	86	20,3
19	30	20,3	44	49	20.3	69	68	21,0	94	87	19,9
20	31	20,4	45	50	20,6	70	69	19,1	95	87	20,3
21	31	20,6	46	51	19,9	71	69	20,4	96	88	20,1
22	32	20,5	47	51	19,9	72	70	19,4	97	89	20,4
23	33	19,8	48	52	20,6	73	71	19,9	98	0	
24	34	20,5	49	53	21.6 (NT)	74	72	19,5	99	91	15,6
25	34	20,1	50	54	21,1	75	72	19,0	100	ND	

AN/TPS-59 FLIGHT TEST

Pg 2/2

Date 6/2/76 Flight # 29

Time 02 Starting Range _____

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	92	20.0	26	111	20.5	51			76		
2	93	20.5	27	112	20.3	52			77		
3	94	18.1	28	113	20.5	53 (NT?)			78		
4	94	21.0	29	(2)		54			79		
5	95	17.6	30	114	21.8	55			80		
6	96	21.1	31	115	19.5	56			81		
7	97	18.5	32	116	21.4	57			82		
8	0		33	117	18.3	58			83		
9	ND		34	117	17.9	59			84		
10	0		35	118	21.5	60			85		
11	100	18.9	36	119	19.0	61			86		
12	101	20.5	37	120	19.0	62			87		
13	101	22.3	38	121	20.9	63			88		
14	102	18.6	39	121	25.5	64			89		
15	103	23.0	40			65			90		
16	104	20.1	41			66			91		
17	104	21.6	42			67			92		
18	105	19.0	43			68			93		
19	106	19.9	44			69			94		
20	107	22.0	45			70			95		
21	107	21.5	46			71			96		
22	108	21.9	47			72			97		
23	109	20.5	48			73			98		
24	110	21.1	49			74			99		
25	111	21.9	50			75			100		

Aborted because of problem with data recording on FPS-16

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 7C

Time 0325 Starting Range 16

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	35	20.0	51			76		
2	ND		27	36	20.1	52			77		
3	ND		28	(E)		53			78		
4	ND		29	38	20.1	54			79		
5	ND		30	38	20.5	55			80		
6	BUSY (E)		31	39	19.9	56			81		
7	21	19.9	32	40	20.6	57			82		
8	22	20.1	33	41	20.1	58			83		
9	23	20.3	34			59			84		
10	23	20.1	35			60			85		
11	24	20.9	36			61			86		
12	25	20.1	37			62			87		
13	26	20.1	38			63			88		
14	26	20.4	39			64			89		
15	27	19.5	40			65			90		
16	28	20.1	41			66			91		
17	29	19.8	42			67			92		
18	29	20.0	43			68			93		
19	30	19.9	44			69			94		
20	31	20.1	45			70			95		
21	32	20.3	46			71			96		
22	32	19.6	47			72			97		
23	33	19.6	48			73			98		
24	34	19.9	49			74			99		
25	(E)		50			75			100		

AN/TPS-59 FLIGHT TEST

Pg 1/2

Date 6/2/76 Flight # 2C

Time 0350 Starting Range 18

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	18	20,5	26	37	20,1	51	56	19,1	76	74	21.3
2	19	20.5	27	38	20,3	52	57	17.9	77	75	19.6
3	ND		28	39	20,5	53	57	19.6	78	75	20.8
4	20	20,0	29	39	20,4	54	58	19,9	79	76	21,1
5	21	20,0	30	40	20,5	55	59	18,6	80	77	20,1
6	(2)	BUSY	31	41	20,6	56	60	19.3	81	78	20.6
7	23	20,3	32	42	19,9	57	60	18.9	82	78	18,8
8	23	20,3	33	43	19,5	58	61	20,8	83	0	
9	24	20,3	34	43	19,9	59	62	20,4	84	80	20,6
10	25	20,4	35	44	20,3	60	63	20.9	85	80	21.8
11	26	20,4	36	45	19,9	61	63	20,8	86	81	20.1
12	26	20,4	37	46	20,3	62	64	19.3	87	82	20,1
13	27	20,4	38	46	20,1	63	65	20.3	88	83	20,0
14	28	20,5	39	47	19,8	64	66	19,9	89	83	19,8
15	29	20,3	40	48	20,4	65	66	19,4	90	84	20,1
16	29	20,1	41	49	20,1	66	67	20,0	91	85	22.6
17	30	20,1	42	49	20,0	67	68	20,3	92	85	22,0
18	31	20,0	43	50	21,1	68	68	20.3	93	ND	
19	32	20,4	44	51	19,1	69	69	20,9	94	87	20,6
20	32	20,3	45	52	20,1	70	70	20,4	95	88	19,6
21	33	20,6	46	0		71	70	19,3	96	88	20.3
22	34	19,8	47	53	20,9	72	71	19,4	97	89	21,0
23	35	20,1	48	54	20,0	73	92	19,6	98	90	20,1
24	36	20,4	49	55	20,3	74	75	20,3	99	91	21,6
25	36	20,0	50	55	19.8	75	73	20,8	100	91	21.8

AN/TPS-59 FLIGHT TEST

Pg 2/2

Date 6/2/26 Flight # DC

Time 0350 Starting Range 18

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	92	20,1	26	111	19.6	51			76		
2	ND		27	112	20,1	52			77		
3	ND		28	112	19,9	53			78		
4	ND		29	113	21,3	54			79		
5	ND		30	114	20,3	55			80		
6	96	21.4	31	115	19.5	56			81		
7	ND		32	115	21,1	57			82		
8	ND		33	116	19.3	58			83		
9	ND		34	117	20,5	59			84		
10	ND		35	118	20,8	60			85		
11	100	20,4	36	118	20,4	61			86		
12	101	21,9	37	119	20,1	62			87		
13	101	20,1	38	120	20,9	63			88		
14	102	20,9	39	120	22,9	64			89		
15	103	22,3	40	121	21,4	65			90		
16	104	19,3	41	122	23,3	66			91		
17	104	20,6	42	1		67			92		
18	105	20,8	43			68			93		
19	106	21,0	44			69			94		
20	106	21,1	45			70			95		
21	107	21,1	46			71			96		
22	108	22,8	47			72			97		
23	104	21,6	48			73			98		
24	109	21,0	49			74			99		
25	110	18,5	50			75			100		

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 8a

Time 0420 Starting Range 93

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	93	111	26	78	116	51	62	100	76	46	110
2	93	134	27	77	118	52	61	104	77	45	099
3	92	128	28	76	110	53	61	04	78	45	103
4	91	125	29	76	114	54	60	104	79	44	104
5	91	124	30	ND		55	59	096	80	44	110
6	90	123	31	75	098	56	59	101	81	43	105
7	89	123	32	74	101	57	58	106	82	42	108
8	89	105	33	73	076	58	58	099	83	42	096
9		O	34	73	113	59	57	096	84	41	093
10		O	35	72	091	60	56	108	85	40	101
11	ND		36	71	100	61	56	111	86	40	105
12	86	100	37	71	100	62	55	108	87	39	106
13	ND		38	70	084	63	54	104	88	38	099
14	85	133	39	69	099	64	54	099	89	38	096
15	ND		40	69	110	65	53	106	90	37	101
16	84	104	41	68	109	66	52	100	91	37	103
17	83	105	42	68	110	67	52	105	92	36	096
18	83	066	43	67	102	68	51	103	93	35	095
19	82	106	44	66	095	69	51	104	94	35	098
20	81	111	45	66	100	70	50	100	95	34	096
21		O	46	65	094	71	49	098	96	33	099
22	ND		47	64	110	72	49	100	97	33	098
23	ND		48	64	111	73	48	101	98	32	098
24	ND		49	63	106	74	47	099	99	31	098
25	ND		50	63	093	75	47	103	100	31	094

AN/TPS-59 FLIGHT TEST

(2)

Date _____ Flight # 89

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	30	099	26	14	ND 100	51			76		
2	29	098	27	ND		52			77		
3	29	100	28	12	100	53			78		
4	28	103	29	12	100	54			79		
5	28	104	30	11	101	55			80		
6	27	096	31	10	099	56			81		
7	2		32	ND		57			82		
8 (2)	26	094	33	9	101	58			83		
9	25	100	34	9	100	59			84		
10	24	100	35	8	103	60			85		
11	24	100	36	ND		61			86		
12	23	101	37	7	105	62			87		
13	22	101	38	ND		63			88		
14	22	183	39	ND		64			89		
15	21	101	40	ND		65			90		
16	20	101	41			66			91		
17	ND		42			67			92		
18	ND		43			68			93		
19	18	099	44			69			94		
20	ND		45			70			95		
21	ND		46			71			96		
22	ND		47			72			97		
23	15	098	48			73			98		
24	15	100	49			74			99		
25	14	101	50			75			100		

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 3B & 10 page 1 of 2

Time 0109 Starting Range 197

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	197	513	26	172	421	51	143	415	76	114	395
2	ND		27	171	429	52	142	415	77	113	404
3	ND		28	170	414	53	141	466	78	111	400
4	ND		29	169	404	54	140	439	79	110	3?5
5	ND		30	168	401	55	139	431	80	10?	395
6	ND		31	167	435	56	138	423	81	??	?71
7	192	348	32	166	408	57	136	413	82	107	370
8	191	435	33	164	452	58	135	415	83	106	410
9	190	356	34	163	411	59	134	411	84	104	38?
10	189	384	35		?	60	133	371	85	103	398
11	188	409	36	ND		61	132	426	86	102	413
12	185	400	37	160	434	62	130	406	87	101	400
13	187	493	38	159	434	63	129	390	88	100	398
14	186	456	39	158	440	64		?	89	99	415
15	185	428	40	156	441	65	127	398	90	97	411
16	184	409	41	155	455	66	126	394	91	96	433
17	183	405	42	154	390	67	124	416	92	95	400
18	182	451	43	153	389	68	123	425	93	94	3?8
19	180	450	44	152	435	69	122	396	94	93	421
20	179	401	45	N	D	70	121	409	95	92	431
21	178	349	46	149	405	71	120	413	96	91	420
22	177	414	47	148	411	72	119	354	97	5?	3?0
23	176	435	48	147	400	73	117	405	98		
24	175	435	49	146	369	74	116	405	99	?7	423
25	174	386	50	145	420	75	115	418	100	86	409

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 3B & 1D Pg 1 of 2

Time 0109 Starting Range _____

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	85	393	26	56	418	51	28	431	76		
2	84	411	27	55	423	52	2		77		
3	82	399	28	54	418	53	26	428	78		
4	81	425	29	53	418	54	25	461	79		
5	80	419	30	52	411	55	24	443	80		
6	79	426	31	51	415	56	23	424	81		
7	78	416	32	50	418	57	22	425	82		
8	77	416	33	49	414	58	13		83		
9	76	416	34	47	409	59			84		
10	74	411	35	46	414	60			85		
11	73	418	36	45	419	61			86		
12	72	411	37	44	413	62			87		
13	71	421	38	43	411	63			88		
14	70	413	39	42	415	64			89		
15	69	408	40	41	409	65			90		
16	68	403	41	39	416	66			91		
17	66	403	42	38	418	67			92		
18	65	419	43	37	415	68			93		
19	64	395	44	2		69			94		
20	63	411	45	35	426	70			95		
21	62	410	46	34	416	71			96		
22	61	421	47	2		72			97		
23	60	420	48	2		73			98		
24	59	400	49	2		74			99		
25	57	414	50	2		75			100		

AN/TPS-59 FLIGHT TEST

Date 6/2/26 Flight # 26 Pg 1

Time 0300 Starting Range 119

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	119	20.5	26	99	22.5	51	78	20,9	76	57	19,6
2	119	20,3	27	98	19,6	52	77	20,4	77	57	20,1
3	118	19,3	28	97	22,4	53	76	20,6	78	56	20,3
4	117	20,0	29	NO		54	76	20,1	79	55	19,3
5	117	20,5	30	96	18,4	55	75	21,3	80	54	19,5
6	116	22,3	31	95	20,3	56	74	19,8	81	53	20,1
7	115	22.0	32	94	20,4	57	73	19,6	82	52	21,1
8	114	19.9	33	93	18,9	58	72	21,8	83	52	20,3
9	113	20,4	34	92	20,4	59	71	20,0	84	51	20,3
10	112	19,3	35	91	20,5	60	71	20,5	85	50	20,6
11	112	22,5	36	91	19,5	61	70	20,3	86	49	19,9
12	111	23,3	37	90	18,9	62	69	19,9	87	48	19,8
13	110	19,6	38	89	20,4	63	68	19,8	88	47	19,4
14	109	21,4	39	88	20,9	64	67	19,8	89	47	20,5
15	108	20,3	40	87	20,8	65	66	20,1	90	46	20,6
16	107	19,5	41	86	19,4	66	66	19,9	91	45	20,0
17	106	21.0	42	0		67	65	20,4	92	44	20,3
18	106	20,6	43	85	21,5	68	64	20,4	93	43	19,9
19	105	22,4	44	84	23.0	69	63	18,9	94	43	21,0
20	104	21,4	45	83	23,1	70	62	20,1	95	42	20,8
21	103	18,5	46	82	20,9	71	61	20,1	96	41	20,1
22	102	21,4	47	81	22,1	72	61	19,5	97	40	20,1
23	101	21,4	48	81	20,5	73	60	20,0	98	(2)	
24	101	20,8	49	80	20,8	74	59	19,9	99	38	20,3
25	100	20,0	50	79	20,6	75	58	19,8	100	(2)	

AN/TPS-59 FLIGHT TEST

Date 6/2/26 Flight # 7b Pg 2/2

Time ~~0300~~ Starting Range 119

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	37	20,0	26	16	20.3	51			76		
2	36	20,1	27	15	20,5	52			77		
3	NT		28	ND		53			78		
4	34	19.6	29	ND		54			79		
5	33	19,8	30	ND		55			80		
6	33	19,8	31 ~~30~~	ND		56			81		
7	32	20,8	32	11	20,6	57			82		
8	31	20,1	33	ND		58			83		
9	30	20,3	34	ND		59			84		
10	29	20,1	35			60			85		
11	28	20,1	36			61			86		
12	28	20,5	37			62			87		
13	27	20,5	38			63			88		
14	26	20,6	39			64			89		
15	25	20,1	40			65			90		
16	24	20,3	41			66			91		
17	23	20,0	42			67			92		
18	23	20,4	43			68			93		
19	22	20.9	44			69			94		
20	21	20A	45			70			95		
21	20	20,1	46			71			96		
22	ND		47			72			97		
23	18	20,3	48			73			98		
24	18	20,0	49			74			99		
25	ND		50			75			100		

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 5/2/76

Time 0445

1. Phase Measurement Program

Rows Out

Σ	ΔAz
3, 4, 50, 45	5

Total # of Σ Rows Out 4

Sensitivity Loss (10 log n/54) -.37 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing ✓ OK

6. PM D6 Listing

Tx Rows Out

21, 38, 44, 48, 51, 53

Total # of Tx Rows Out 6

Sensitivity Loss (20 log n/54) -1.02 dB

Total Sensitivity Loss -1.39 dB

Power Supply Checks

Unit 5 ✓

Unit 6 ✓

Unit 7 ✓

Time Meter Readings

Array 52483

Cont. Shelter 6040.2

Proc. Shelter 2255.1

GE Test Director W. Gunn

Gov't Witness RJ LaVine

6/2/76

POST FLIGHT

0845

D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	69	2:	59	3:	77	4:	57
5:	63	6:	65	7:	60	8:	74
9:	60	10:	62	11:	68	12:	55
13:	62	14:	50	15:	78	16:	53
17:	50	18:	70	19:	61	20:	59
21:	9	22:	80	23:	59	24:	53
25:	66	26:	55	27:	53	28:	60
29:	53	30:	51	31:	58	32:	53
33:	53	34:	67	35:	54	36:	55
37:	53	38:	12	39:	44	40:	59
41:	82	42:	125	43:	58	44:	12
45:	48	46:	41	47:	47	48:	36
49:	59	50:	54	51:	29	52:	52
53:	25	54:	69				

D2

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	206
SR - SP	(47 MIN)	110
SR - LFM	(47 MIN)	83
MTI - LFM	(13 MAX)	1

6/2/76
POST FLIGHT
0550

29A AND B.

30 37A B AND C

TWO DUMMY TESTS 40A

AND 42B

6/2/75
POST FLIGHT
0552

RESPOND--9

AUTOMATIC FAULT STATUS
[illegible]

TARGET 1 NO. MESSAGES 120.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTION 0.

	MEAN	SD
AE	-.015	.026
EL	.001	.024
SUM	72.71	1.00
DC	731.19	0.0
SUM -1	28.10	1.16
SUM -2	58.35	1.08
D AZ-1	20.96	1.46
D AZ-2	38.37	1.06
D EL-1	28.05	1.25
D EL-2	60.82	1.07

6/2/76

POST FLIGHT

0500

```
ENTER PRIMARY CONTROL NO.
!
ENTER FIRST ALTERNATE CONTROL NO.
&
ENTER SECOND ALTERNATE CONTROL NO.
%
ANY RESPONSE --- TRY AGAIN
ENTER SECOND ALTERNATE CONTROL NO.
BEGINNING TEN SECOND REAL TIME CLOCK TEST
REAL TIME CLOCK NOT AT 1024 HZ
BEGINNING TEN SECOND REAL TIME CLOCK TEST
DONE
```

7		22	216	17	283	60	346	19	356	16	187	66	171	94	184
7	A	22	213	18	283	62	346	15	253	13	187	61	316	85	316
OUT 7	A	22	213	17	283	60	347	2	169	14	25	63	327	87	320
7		21	210	17	277	60	346	10	77	11	372	56	252	58	257
7	A	21	210	17	277	59	345	16	316	1	12	57	179	91	186
7		22	209	17	280	61	345	15	166	16	42	64	110	87	132
7		22	207	17	280	60	345	23	115	41	341	82	324	89	320
7		21	210	17	280	59	345	20	331	16	232	87	281	90	286
7		21	208	17	280	59	345	23	282	45	134	83	64	92	73
7		21	208	17	277	59	345	24	176	25	16	87	173	94	179
7		21	209	17	277	59	345	27	54	24	277	82	266	85	236
7		21	210	17	277	59	345	36	358	38	177	79	39	82	46
7		22	209	17	280	60	345	26	215	32	96	81	66	80	69
7		21	210	17	277	59	345	36	133	31	339	85	7	88	14
7		21	210	17	280	59	345	39	9	41	230	60	144	89	109
7		21	208	17	280	59	345	34	253	32	101	87	79	90	86
7		21	210	18	279	59	345	40	178	39	18	86	89	94	96
7		22	207	17	277	60	345	52	82	41	278	86	248	91	295
7		21	210	17	280	60	345	46	326	43	183	82	100	86	137
7		21	210	17	277	59	345	41	217	44	30	77	82	80	87
7		21	210	17	280	59	345	44	112	31	3	58	71	19	223
7		21	210	17	280	59	345	53	8	31	139	83	240	87	246
7		21	210	17	280	60	345	51	273	45	120	85	74	92	81
7		21	208	17	280	59	345	53	153	52	15	86	260	85	260
7		21	208	17	280	59	345	50	45	49	265	87	355	94	354
7		21	210	17	280	59	345	41	341	36	191	80	259	90	260
7		21	208	17	280	59	345	43	116	44	341	85	74	91	72
7		21	210	17	280	59	345	48	16	55	241	84	190	87	195
7		21	208	17	280	59	345	38	291	44	140	84	244	89	291
7		21	210	18	279	59	345	43	164	31	26	35	120	90	100
7		21	210	17	280	59	345	46	96	51	306	79	46	83	42
7		21	208	17	277	60	345	48	326	52	187	86	274	93	271
7		21	210	17	280	60	346	41	227	39	105	78	40	87	16
7		21	208	17	280	59	345	50	150	44	4	82	322	87	350
7		21	210	18	279	60	345	43	39	45	241	84	178	90	100
7		22	207	17	280	59	345	36	289	40	143	66	13	87	125
7		21	210	17	280	59	345	41	163	45	32	85	22	93	170
7		21	210	17	277	59	345	26	67	21	283	69	122	45	167
7		21	208	17	280	59	345	39	344	34	202	79	45	90	146
OUT 7		22	209	17	280	59	345	30	278	33	131	82	194	93	345
7		21	212	17	277	60	345	9	174	26	33	80	345	90	189
7		21	210	17	280	58	345	24	50	22	265	84	7	93	159
7		21	210	17	280	60	345	29	315	27	122	62	326	80	110
7		21	210	17	280	60	345	20	209	22	77	59	123	43	108
7		21	210	17	277	59	345	12	115	20	337	84	164	90	254
7		21	210	17	280	59	345	21	5	19	246	89	159	89	229
7		21	208	17	280	60	346	15	247	10	132	60	55	90	186
7		22	209	17	280	59	345	14	146	17	40	66	174	92	238
7		21	210	18	279	59	345	13	63	15	278	65	84	82	243
BOOT 7		22	207	17	280	60	345	5	11	14	180	81	110	82	239
7		21	210	18	279	59	345	10	191	12	85	72	124	45	136
7		21	208	18	279	59	345	11	100	13	333	74	194	81	42
7		21	208	17	277	58	345	12	14	12	228	76	124	44	100
7		21	210	17	280	59	345	6	270	9	131	66	62	89	76

Post-Flight
1/2/76
0455

TARGET 1 NO. MESSAGES 100.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TST DETECTIONS 0.

	MEAN	STD
AZ	.036	.011
EL	-.071	.039
SUM	31.18	1.57
DIF	1.04	.42
AZ -64	.166	.038
EL -64	-.075	.024
SUM -64	46.14	1.57
DIF -64	31.46	.629
AZ -15	31.65	.695
EL -15	-.046	.079
SUM -15	31.72	.595
DIF -15	34.77	.638
AZ -4	57.67	1.71
EL -4	.179	.021
SUM -4	-.146	.012
DIF -4	46.52	1.54
AZ -17	1.63	.558
EL -17	57.69	1.93
SUM -17	3.09	1.21
DIF -17	46.54	1.51
AZ -29	3.30	1.2
EL -29	46.92	1.38
AZ -2	-.142	.024
EL -2	-.137	.034
SUM -18	11.62	1.22
DIF -18	44.10	1.96
AZ -18	18.17	1.73
AZ -32	43.39	1.03
EL -18	17.96	1.28
EL -32	46.03	1.24
SUM -2	46.50	1.15
AZ -1	-.081	.216
EL -1	-.114	.215
SUM -11	10.64	1.53
DIF -11	9.03	1.04
AZ -11	57.95	1.52
AZ -31	12.01	1.74
EL -11	46.76	1.5
EL -31	15.13	1.76
SUM -1	30.12	1.31

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 6/2/82

Time 2150

1. **Phase Measurement Program**

   Rows Out

Σ	ΔAz
3, 41,	

   Total # of Σ Rows Out 2

   Sensitivity Loss (10 log n/54) .16 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing ✓ OK

6. PM D6 Listing

   Tx Rows Out

   21, 38, 44, 51, 53

   Total # of Tx Rows Out 5

   Sensitivity Loss (20 log n/54) -.84 dB

   Total Sensitivity Loss 1.00 dB

Power Supply Checks

Unit 5 OK

Unit 6 OK

Unit 7 OK

Time Meter Readings

Array 5252.5

Cont. Shelter 6049.3

Proc. Shelter 6264.0

GE Test Director W. Burns

Gov't Witness

ENTER PRIMARY CONTROL ROU
1
ENTER FIRST ALTERNATE CONTROL ROU
2
ENTER SECOND ALTERNATE CONTROL ROU
3
DESTINATION TEST SECOND REAL TIME CLOCK TEST

62-76
PRELIMINARY
2015

DONE

```
7   19  195   15  266   54  329   15  328   13  157   80  125   65  153
7   22  191   15  266   56  329   15  233   13   98   83  266   66  282
7   20  194   16  266   54  329   15  141   16    0   83  267   66  291
7   19  192   15  266   54  329   13   42   14  253   79  213   81  219
7   19  192   15  266   54  329   16  235   12    0   80  132   91  155
7   19  195   15  266   54  329   17  173   15   32   84   73   85  103
7   20  194   15  266   54  329   20   96   20  317   83  268   66  295
7   20  194   15  266   55  330   20  333   16  212   79  210   82  223
7     19  195    14  270    54  329    24  261    24  144    82    23    82    47
7   19  195   15  266   55  328   24  155   26    0   81  129   80  147
7   20  194   15  266   53  328   26   38   24  261   66  164   96  176
7   20  194   15  270   55  328   37  315   37  160   66    2   86   13
7   19  195   15  266   54  329   28  193   29   70   81   17   82   36
7   20  194   15  266   55  328   36  111   29  319   81  316   92  304
7   19  195   15  266   55  328   39  346   40  211   82  119   86  111
7     23  191    15  266    55  328    24  232    32   63    70   46    85   66
7     20  191    15  265    54  329    39  151    42    0    75   47    87   65
7   19  195   15  266   54  329   51   55   72  200   82  260   81  222
7   20  194   15  266   54  329   42  306   44  153   66   68   89  105
7   20  191   15  266   54  329   44  197   44   42   80  305   81    4
7   20  191   15  262   54  329   45   89   50  343   48   48   48  161
7     20  194    15  266    55  330    32  352    48  186    82  156    80  345
7   20  194   15  266   55  330   50  254   46  101   70   51   82   49
7   21  194   15  266   55  330   54  136   50    3   85  251   93  205
7   20  194   15  266   55  330   54   69   50  245   84  343   87  344
7   21  194   15  266   55  330   43  343   53  177   81  266   83  285
7   19  192   14  266   54  329   42   96   42  322   83  106   82   66
7   20  194   16  266   54  329   49  354   35  224   79    4   94  170
7   20  191   16  266   54  329   35  273   43  121   77   43   82  222
7   23  191   15  266   54  329   45  145   49   13   80  257   91   96
7   20  194   15  266   55  328   47   80   52  267   86  180   80   14
7   19  195   15  266   55  330   43  312   52  173   87   55   87  248
7   20  194   15  266   54  329   42  286   44   87   86  162   89  314
7   19  192   15  266   55  330   51  134   44  347   78   69   91  274
7   19  195   15  266   55  331   44   28   44  324   80  344   94  165
7   19  191   15  266   55  330   37   7   32   70   104   87   97   91
7     22  194    16  266    55  330    41  166    44    5    81  316    89  142
7   19  192   15  266   55  329   35   40   24  270   42   48   48  161
7   20  191   15  266   55  332   39  326   33  187   79  318   87  115
7   20  194   15  265   54  329   38  259   32  110   91  145   84  304
7   21  194   15  266   54  329   38  159   27   19   79  335   80  102
7     22  191    15  265    55  331    26   33    21  251    82  318    86  104
7   21  194   15  266   54  329   31  331   31  171   87  272   92   91
7   20  194   15  266   54  329   21  188   30   63   46   46   48  161
7   21  192   16  266   54  329   14   82   19  319   77   46   91  217
7   20  191   15  266   56  329   21  349   15  235   92  144   86  326
7   19  195   15  267   55  330   14  222   16  183    3    3   96  170
7   20  194   15  266   56  329   19  117   16   22   82  115   83  291
7     22  194    17  266    55  328    13   42    15  277    81   16    87  191
7   19  192   15  266   54  329   12  279   14  168   83  251   91   81
7   20  191   15  266   54  329   11  167   12   68   48   48   48  161
7   21  191   15  266   55  330   19   96   13  318   81  266   81   81
7   22  191   15  266   55  332   17    0   15  215   53   53   43  162
7   21  191   15  266   55  328    3  249    6  128   75  251   87   45
```

LOOP 3 PROGRAM 2
THIS PROGRAM EXERCISES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE

4 5 6 9

19A B C AND D

21A B C D AND F

22A D AND C

23A B C AND D

25A AND B

26A AND B

27A AND C

6/26
PRE FLIGHT
2025

AUTOMATIC FAULT STATUS

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	.002	.024
EL	.045	.021
SUM	72.95	1.43
R G	751.19	0.0
SUM -1	36.37	1.29
SUM -4	36.74	1.27
D AZ-1	27.59	1.28
D AZ-4	66.73	1.34
D EL-1	34.79	0.66
D EL-4	62.68	0.61

LOOP B PROGRAM 3
THIS PROGRAM PROCESSES LR-4 REPLYS
ACTIVE TEST NUMBERS ARE

16 15

16A B C AND D

15A B C AND D

3 AND C

TWO DUMMY TESTS 16A AND B

[redacted] STOS

[redacted] 10 MIO

[redacted] 09 RDM

TILT .3 MILS

[redacted] 21 DEG CENTIGRADE

6/2/76

PRE FLIGHT

20;40

COMPUTER PERFORMANCE (PER SCAN)

RADAR TGTS IN	273
IFF TGTS	3
TADC RPTS	3
TADC NO-RPTS	0
RADAR TGTS PROC	153
AVAIL STORE	503
RELEASE STORE	16
CLUT SECTORS	110

$D6

ROM PERFORMANCE

ROM OUTPUT (62 NOM) F: 6

1:	65	2:	55	3:	72	4:	57
5:	63	6:	68	7:	66	8:	68
9:	58	10:	65	11:	70	12:	59
13:	64	14:	55	15:	75	16:	53
17:	54	18:	69	19:	63	20:	59
21:	8	22:	81	23:	62	24:	55
25:	67	26:	55	27:	54	28:	61
29:	53	30:	54	31:	57	32:	53
33:	54	34:	68	35:	55	36:	56
37:	53	38:	11	39:	41	40:	62
41:	108	42:	134	43:	53	44:	48
45:	54	46:	41	47:	54	48:	49
49:	59	50:	64	51:	29	52:	52
53:	51	54:	69				

6/2/76
PREFLIGHT
20:40

D2

PROCESSOR RESPONSE

LP - LFM	(145 MIN)	209
SR - SP	(47 MIN)	103
SR - LFM	(47 MIN)	85
MTI - LFM	(13 MAX)	3

DO YOU WANT TO MODIFY OR CHANGE CURRENT INSTRUCTION SET
TYPE M OR C OR N N

AUTOMATIC FAULT STATUS
10101C0000000C100C1C0000C0C030

6/2/76
PREFLIGHT
2030

TARGET 1 NO. MESSAGES 12..

NO. MULTIPLE REPLYS ..

NUMBER OF REPLYS WITH NO TGT DETECTIONS ..

	MEAN	STD
AZ	- .062	.21.
EL	- .063	.211
SUM	2..66	1.1.
RG	3312.55	3.2
AZ - 4	- .097	.222
EL - 4	- .055	.217
S UM -I4	43.20	0.38
SUM -Q4 -	36.23	0.93
D AZ-I4	32.50	0.92
D AZ-Q4 -	24.67	0.69
D EL-I4	41.00	0.3
D EL-Q4 -	32.34	0.76
SUM - 4	57.73	0.43
AZ - 3	- .050	.21.
EL - 3	- .096	.212
SUM -I3	45.12	0.48
SUM -Q3	3.35	0.47
D AZ-I3	51.41	0.49
D AZ-Q3	1.22	0.50
D EL-I3	43.04	0.3.
D EL-Q3 -	0.97	0.24
SUM - 3	46.47	0.66
AZ - 2	- .127	.225
EL - 2	- .036	.225
SUM -I2	12.53	0.84
SUM -Q2	43.58	0.54
D AZ-I2	18.70	0.96
D AZ-Q2	43.67	0.71
D EL-I2	14.95	1.1.
D EL-Q2	45.96	0.24
SUM - 2	49.64	0.67
AZ - 1	.000	.21.
EL - 1	- .056	.026
SUM -I1	43.00	0.0
SUM -Q1 -	8.52	0.85
D AZ-I1	55.50	0.59
D AZ-Q1 -	12.99	0.17
D EL-I1	44.96	0.31
D EL-Q1 -	11.56	0.94
SUM - 1	46.75	0.42

6/3/76
0115

D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	69	2:	55	3:	72	4:	61
5:	67	6:	65	7:	63	8:	71
9:	58	10:	62	11:	72	12:	59
13:	64	14:	51	15:	81	16:	54
17:	53	18:	70	19:	62	20:	59
21:	9	22:	81	23:	62	24:	55
25:	67	26:	54	27:	56	28:	61
29:	54	30:	55	31:	57	32:	53
33:	54	34:	68	35:	54	36:	57
37:	49	38:	11	39:	45	40:	63
41:	67	42:	136	43:	60	44:	16
45:	48	46:	43	47:	54	48:	51
49:	51	50:	64	51:	23	52:	52
53:	37	54:	65				

6/3/76

0220

D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	65	2:	55	3:	61	4:	61
5:	67	6:	65	7:	66	8:	71
9:	63	10:	62	11:	68	12:	57
13:	64	14:	51	15:	79	16:	56
17:	56	18:	70	19:	61	20:	59
21:	9	22:	79	23:	60	24:	57
25:	66	26:	53	27:	55	28:	58
29:	54	30:	53	31:	61	32:	52
33:	55	34:	67	35:	53	36:	54
37:	50	38:	15	39:	48	40:	63
41:	123	42:	110	43:	48	44:	16
45:	54	46:	50	47:	54	48:	43
49:	61	50:	36	51:	36	52:	59
53:	25	54:	60				

6/3/76
0450

PM00L

:D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	69	2:	55	3:	77	4:	51
5:	67	6:	68	7:	63	8:	66
9:	60	10:	65	11:	74	12:	59
13:	64	14:	48	15:	61	16:	57
17:	53	18:	70	19:	62	20:	60
21:	8	22:	82	23:	60	24:	54
25:	69	26:	54	27:	55	28:	61
29:	54	30:	52	31:	58	32:	54
33:	54	34:	67	35:	54	36:	54
37:	51	38:	15	39:	48	40:	59
41:	88	42:	109	43:	51	44:	77
45:	58	46:	45	47:	52	48:	51
49:	59	50:	58	51:	39	52:	52
53:	35	54:	60				

:

Written over — No TAPE

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 3C

Time 2230 Starting Range 120

Freq. (f#) 2 → 7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	120	393	26	142	416	51	164	379	76	188	420
2	120	380	27	143	416	52	165	421	77	189	396
3	121	409	28	144	451	53	166	387	78	190	404
4	122	396	29	145	414	54	167	390	79	191	424
5	123	380	30	146	393	55	168	384	80	191	530
6	124	401	31	146	404	56	169	356	81	2	
7	125	404	32	147	443	57	170	420	82	ND	
8	126	394	33	148	405	58	171	443	83	194	421
9	127	416	34	149	419	59	172	423	84	195	417
10	128	388	35	150	404	60	173	419	85	ND	
11	129	405	36	151	395	61	174	436	86	197	379
12	130	424	37	152	411	62	2		87	ND	
13	130	409	38	153	406	63	2		88	ND	
14	131	424	39	154	409	64	177	429	89	200	393
15	132	416	40	2		65	177	439	90 (2)	201	440
16	133	395	41	2		66	178	390	91	202	446
17	134	394	42	156	399	67	179	420	92	202	443
18	135	400	43	157	381	68	180	380	93	ND	
19	136	381	44	158	453	69	181	396	94	204	454
20	137	410	45	159	420	70	182	443	95	205	436
21	138	394	46	160	388	71	183	385	96	206	434
22	138	393	47	161	373	72	184	415	97	207	446
23	139	391	48	162	375	73	185	395	98	208	431
24	140	413	49	163	389	74	186	448	99	209	444
25	141	415	50	164	421	75	187	470	100	ND	
										ND	
										ND	
										ND	

Written -over
13 Tape

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 3d

Time 2250 Starting Range 211

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	211	415	26			51			76		
2	ND		27			52			77		
3	ND		28			53			78		
4	208	381	29			54			79		
5	206	378	30			55			80		
6	205	375	31			56			81		
7	204	440	32			57			82		
8	203	445	33			58			83		
9	202	451	34			59			84		
10	201	430	35			60			85		
11	200	414	36			61			86		
12	ND		37			62			87		
13	198	415	38			63			88		
14	ND		39			64			89		
15	196	439	40			65			90		
16	195	384	41			66			91		
17	193	379	42			67			92		
18	192	424	43			68			93		
19	191	438	44			69			94		
20	190	385	45			70			95		
21	189	430	46			71			96		
22	188	399	47			72			97		
23	187	391	48	total = 23		73			98		
24			49			74			99		
25			50	Pd = .83		75			100		
				n = 19							
				μ = 41.1							
				σ = 2,614							

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 32

Time 2310 Starting Range 197

Freq. (f#) 2 → 7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	197	435	26	171	434	51	143	404	76		
2	196	486	27	170	434	52	142	370	77		
3	195	430	28	169	381	53	141	376	78		
4	194	465	29	167	419	54	140	379	79		
5	O		30	166	406	55	137	414	80		
6	N	D	31	165	405	56	138	411	81		
7	191	419	32	164	418	57	137	410	82		
8	190	383	33	163	404	58	136	390	83		
9	189	410	34	162	404	59	135	415	84		
10	188	401	35	161	450	60	2		85		
11	187	430	36	160	407	61	132	401	86		
12	186	414	37	159	398	62	131	426	87		
13	185	414	38	158	431	63	130	- >	88		
14	184	458	39	157	405	64	129	-20	89		
15	183	413	40	156	376	65	128	429	90		
16	182	453	41	154	381	66	127	399	91		
17	180	415	42	153	-55	67	126	419	92		
NT 18?	179	371	43	152	385	68	125	400	93		
19	178	379	44	151	428	69	124	411	94		
20	177	396	45	150	362	70	122	405	95		
21	176	395	46	149	414	71	121	404	96		
22	175	406	47	148	426	72	120	385	97		
23	174	381	48	147	401	73	119	404	98		
24	173	435	49	146	415	74	118	374	99		
25	172	413	50	144	399	75			100		

Many
% Break tracks
won't use for accuracy

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 4a

Time 2325 Starting Range 118

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	118	403	26	139	396	51	161	390	76	ND	
2	119	398	27	140	409	52	162	410	77	185	413
3	119	404	28	141	415	53	163	399	78	O	
4	120	408	29	141	404	54	163	394	79	186	446
5	121	386	30	142	408	55	164	396	80	187	371
6	122	410	31	143	424	56	165	400	81	188	376
7	123	400	32	144	403	57	166	378	82	189	403
8	124	394	33	145	417	58	167	371	83	190	405
9	125	403	34	146	401	59	168	401	84	191	375
10	125	426	35	147	414	60	169	401	85	192	413
11	126	398	36	147	421	61	170	463	86	193	420
12	127	403	37	148	454	62	171	393	87	194	308
13	128	421	38	149	441	63	172	413	88	195	423
14	129	405	39	150	409	64	173	411	89	R	
15	130	391	40	151	419	65	174	463	90	197	400
16	131	458	41	152	409	66	174	405	91	198	436
17	131	391	42	153	388	67	R		92	ND	
18	132	421	43	154	411	68	176	436	93	200	415
19	133	418	44	154	399	69	177	419	94	201	514
20	134	411	45	155	379	70	178	436	95	202	465
21	135	413	46	156	408	71	179	438	96	203	395
22	136	425	47	157	408	72	180	426	97	ND	
23	136	416	48	158	409	73	181	395	98	205	470
24	137	396	49	159	408	74	182	388	99	206	448
25	138	411	50	160	394	75	183	453	100	ND	
										ND	
										ND	

AN/TPS-59 FLIGHT TEST

Date 6/2/76 Flight # 46

Time 2345 Starting Range 205?

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	○		26	176	433	51	149	371	76	122	396
2	ND		27	ND		52	ND		77	121	383
3	ND		28	174	413	53	147	374	78	120	375
4	201	405	29	173	378	54	145	326	79	119	421
5	200	518	30	172	418	55	144	450	80		
6	199	409	31	171	415	56	143	394	81		
7	198	436	32	170	416	57	142	408	82		
8	196	430	33	168	428	58	141	384	83		
9	195	434	34	167	401	59	140	393	84		
10	194	386	35	166	421	60	139	404	85		
11	193	435	36	165	406	61	138	402	86		
12	192	428	37	164	371	62	137	383	87		
13	191	430	38	163	405	63	136	398	88		
14	190	391	39	162	419	64	135	388	89		
15	189	391	40	161	409	65	134	394	90		
16	187	389	41	160	428	66	133	431	91		
17	186	425	42	158	416	67	131	394	92		
18	185	391	43	157	431	68	130	404	93		
19	184	350	44	156	421	69	129	444	94		
20	183	427	45	155	451	70	128	424	95		
21	182	426	46	ND		71	127	408	96		
22	181	409	47	153	386	72	126	403	97		
23	179	383	48	152	371	73	125	376	98		
24	178	426	49	151	410	74	124	385	99		
25	177	444	50	150	425	75	123	395	100		

AN/TPS-59 FLIGHT TEST

Pg 1/

Date 6/3/76 Flight # 4C

Time 0200 Starting Range 118

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	118		26	(2)		51	160	39.4	76	183	40.5
2	119	400	27	140	41.8	52	161	39.6	77	184	380
3	120	409	28	141	39.8	53	162	38.9	78	185	411
4	121	386	29	141	37.6	54	163	39.9	79	186	420
5	122	406	30	142	39.4	55	164	33.3	80	187	408
6	122	400	31	143	43.9	56	165	41.6	81	188	43.4
7	123	416	32	144	40.8	57	166	40.1	82	189	37.6
8	124	396	33	145	42.5	58	167	41.0	83	190	486
9	125	409	34	146	42.3	59	168	48.1	84	191	37.9
10	126	41.1	35	146	40.9	60	168	40.9	85	192	44.6
11	126	393	36	0		61	169	48.9	86	192	45.4
12	127	404	37	148	42.4	62	170	39.1	87	0	
13	128	41.1	38	149	40.3	63	171	41.6	88	NO	
14	129	40.0	39	150	43.1	64	172	40.5	89	0	
15	130	400	40	151	39.8	65	173	380	90	196	40.6
16	131	405	41	152	45.8	66	174	41.1	91	NO	
17	131	428	42	153	42.4	67	175	41.0	92	198	395
18	132	411	43	153	41.0	68	176	42.3	93	199	43.6
19	133	443	44	154	41.4	69	177	39.5	94	200	45.4
20	134	40.6	45	154	44.8	70	178	43.1	95	201	420
21	135	426	46	156	38.6	71	179	40.1	96	202	43.4
22	136	370	47	157	42.4	72	179	41.1	97	203	48.4
23	NO		48	158	41.1	73	180	42.4	98	204	38.4
24	(2)		49	159	41.9	74	181	400	99	(2)	
25	138	37.9	50	160	41.1	75	182	381	100	206	43.5
										207	44.9
										208	33.3
										209	47.6
										209	40.9
										210	45.4
										211	47.9
										212	48.4
										0	
										NO	
										NO	
											46.9

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 4d

Time 0017 Starting Range 208

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	208	48.8	26	181	44.6	51	152	42.9	76	123	37.9
2	207	47.1	27	180	40.8	52	151	40.4	77	122	43.3
3	ND		28	179	38.3	53	150	38.6	78	121	41.1
4	205	54.8	29	177	38.5	54	148	31.6	79	119	40.5
5	204	43.4	30	176	38.4	55	147	40.6	80	118	40.6
6	203	47.8	31	175	39.5	56	146	39.8	81	117	39.8
7	202	46.5	32	174	41.0	57	145	42.3	82	116	41.3
8	201	44.0	33	173	35.8	58	44	39.6	83		
9	200	45.1	34	172	39.1	59	143	37.3	84		
10	199	40.8	35	170	39.9	60	141	41.9	85		
11	197	40.5	36	169	38.1	61	140	43.8	86		
12	196	41.0	37	168	41.5	62	139	34.3	87		
13	195	43.1	38	167	38.5	63	138	40.9	88		
14	194	40.5	39	166	39.6	64	137	42.0	89		
15	193	45.1	40	165	39.0	65	136	38.3	90		
16	192	42.9	41	163	41.1	66	134	40.3	91		
17	191	43.0	42	162	41.1	67	133	37.6	92		
18	190	43.9	43	161	38.3	68	132	39.5	93		
19	189	41.4	44	160	43.3	69	131	43.0	94		
20	188	39.9	45	159	39.9	70	130	40.8	95		
21	187	43.0	46	158	40.3	71	129	42.3	96		
22	185	42.8	47	157	38.0	72	127	40.5	97		
23	184	41.4	48	ND		73	126	37.1	98		
24	183	48.0	49	154	37.4	74	125	39.6	99		
25	182	45.5	50	153	37.5	75	124	40.5	100		

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 3A

Time 0032 Starting Range 120

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	120	41.4	26	142	41.3	51	NO		76	190	42.8
2	121	39.5	27	143	43.3	52	166	42.9	77	191	43.1
3	122	39.8	28	144	41.9	53	167	40.6	78	BL	SV
4	123	40.0	29	145	39.1	54	168	43.9	79	BL	SV
5	124	41.0	30	146	39.1	55	169	42.5	80	BL	
6	125	39.0	31	147	38.5	56	170	39.6	81	195	44.3
7	126	39.4	32	147	36.6	57	171	43.9	82	196	38.5
8	127	40.8	33	148	39.4	58	172	38.3	83	NO	
9	128	37.4	34	149	44.4	59	173	38.9	84	198	38.3
10	129	40.3	35	150	42.6	60	174	39.8	85	NO	
11	129	40.3	36	151	41.8	61	175	41.4	86	200	48.3
12	130	42.4	37	152	37.1	62	176	44.0	87	201	43.1
13	131	39.3	38	153	39.3	63	177	45.3	88	NO	
14	132	41.4	39	154	39.3	64	178	43.0	89	203	37.4
15	133	41.6	40	155	39.8	65	179	42.1	90		
16	134	37.3	41	156	39.6	66	180	44.5	91		
17	134	38.6	42	157	39.0	67	(2)		92		
18	135	43.8	43	158	40.4	68	182	44.6	93		
19	136	41.0	44	159	43.3	69	183	42.6	94		
20	137	43.4	45	160	39.9	70	184	44.1	95		
21	138	40.0	46	161	37.0	71	185	44.0	96		
22	139	37.5	47	162	38.3	72	186	41.4	97		
23	140	41.6	48	NO		73	187	41.5	98		
24	140	39.9	49	NO		74	188	43.0	99		
25	141	45.3	50	165	36.3	75	189	45.6	100		

AN/TPS-59 FLIGHT TEST

Date 4/3/76 Flight # 5-A Pg 1/2

Time 0055 Starting Range 166

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	166	38.5	26	143	31.1	51	121	31.9	76	(2)	
2	165	34.0	27	142	30.9	52	120	31.5	77	98	31.3
3	164	33.1	28	141	29.9	53	119	33.5	78	97	32.1
4	164	33.3	29	141	32.0	54	119	32.5	79	96	31.9
5	163	30.6	30	140	30.6	55	118	31.3	80	96	29.9
6	162	32.8	31	139	30.5	56	117	32.3	81	95	31.4
7	161	36.1	32	138	30.0	57	116	31.4	82	94	32.1
8	160	35.0	33	137	31.0	58	115	31.3	83	93	28.0
9	159	30.4	34	136	29.9	59	114	32.1	84	92	31.6
10	158	31.9	35	135	29.6	60	113	30.3	85	91	31.6
11	157	39.1	36	134	30.6	61	112	29.3	86	90	30.1
12	156	35.4	37	133	33.3	62	111	30.8	87	89	32.1
13	155	32.3	38	133	31.4	63	111	31.3	88	88	30.5
14	154	33.4	39	132	31.9	64	110	30.9	89	87	32.5
15	153	32.5	40	131	31.3	65	109	30.6	90	87	31.1
16	152	31.6	41	130	28.4	66	108	34.8	91	86	31.4
17	151	32.3	42	129	32.4	67	107	31.1	92	85	30.3
18	150	28.8	43	128	30.9	68	106	32.1	93	84	30.6
19	150	31.8	44	127	32.4	69	105	30.8	94	84	30.3
20	149	32.6	45	126	32.8	70	104	30.9	95	82	30.0
21	148	30.6	46	126	33.8	71	103	29.4	96	81	30.5
22	147	28.1	47	125	34.8	72	103	30.1	97	80	32.0
23	146	29.3	48	124	32.9	73	102	30.5	98	79	32.5
24	145	31.6	49	123	34.5	74	101	30.0	99	78	31.4
25	144	31.8	50	122	31.4	75	100	29.5	100	78	30.9

AN/TPS-59 FLIGHT TEST

Pg 2/2

Date 6/3/76 Flight # 5A

Time 0055 Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	77	306	26			51			76		
2	76	321	27			52			77		
3	75	318	28			53			78		
4	74	314	29			54			79		
5	73	309	30			55			80		
6	72	306	31			56			81		
7	71	306	32			57			82		
8	70	301	33			58			83		
9	70	308	34			59			84		
10	69	313	35			60			85		
11	68	311	36			61			86		
12	67	310	37			62			87		
13	66	303	38			63			88		
14	65	311	39			64			89		
15	64	309	40			65			90		
16	63	315	41			66			91		
17	62	310	42			67			92		
18	61	316	43			68			93		
19	61	324	44			69			94		
20	60	320	45			70			95		
21	59	306	46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # E6

Time 0228 Starting Range 55

Freq. (f#) 2 → 7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	55	306	26	75	304	51	97	326	76	2	
2	55	315	27	75	308	52	ND		77	120	306
3	56	314	28	76	316	53	99	323	78	121	311
4	57	314	29	77	309	54	100	309	79	121	305
5	58	314	30	78	302	55	100	294	80	122	320
6	58	315	31	79	306	56	101	323	81	123	316
7	59	308	32	80	321	57	102	316	82	124	315
8	60	316	33	81	313	58	103	306	83	125	302
9	61	313	34	81	314	59	104	310	84	125	296
10	62	313	35	82	311	60	105	308	85	126	321
11	62	314	36	83	313	61	106	303	86	127	325
PM 33 1228	63	313	37	84	299	62	106	306	87	128	306
13	64	303	PM 38	85	311	63	108	304	88	129	298
14	65	?	39	86	302	64	108	314	89	130	331
15	66	315	40	87	309	65	109	305	90	130	305
16	66	308	41	88	320	66	110	309	91	131	325
17	67	311	42	89	319	67	111	330	92	132	314
18	68	324	43	90	315	68	112	320	93	133	323
19	69	310	44	90	309	69	113	305	94	134	310
20	70	318	45	91	304	70	114	314	95	135	306
PM 33 21	70	311	46	92	305	71	115	306	96	136	360
22	71	306	47	93	314	72	115	315	97	136	307
23	72	319	48	94	315	73	116	310	98	137	333
24	73	318	49	95	304	74	117	324	99	138	321
All Out 25	74	316	50	96	316	76(2)	118	305	100	139	338

(2)

Date _____ Flight # 56

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	140	290	26	161	350	51			76		
(2)	141	308	27	161	363	52			77		
3	141	323	28	162	337	53			78		
4	142	329	29	2		54			79		
5	143	300	30	164	304	55			80		
6	144	296	31	1		56			81		
7	145	348	32			57			82		
8	2		33			58			83		
9	146	320	34			59			84		
10	147	326	35			60			85		
11	148	291	36			61			86		
12	149	314	37			62			87		
13	150	274	38			63			88		
14	151	369	39			64			89		
15	151	309	40			65			90		
16	152	337	41			66			91		
17	153	316	42			67			92		
18	154	324	43			68			93		
19	155	286	44			69			94		
20	155	269	45			70			95		
21	156	301	46			71			96		
22	157	328	47			72			97		
23	158	308	48			73			98		
24	159	330	49			74			99		
25	ND		50			75			100		

AN/TPS-59 FLIGHT TEST

(1)

Date 6/3/71 Flight # 5c

Time 0250 Starting Range 168

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	168	289	26	149	323	51	127	298	76	104	320
2	167	305	27	148	336	52	126	328	77	103	305
3	166	306	FM 28 258	147	329	FM 53 238	125	307	78	102	296
4	ND		29	146	301	54	124	300	FM 79 258	101	300
5	165	364	30	145	318	55	123	304	80	100	306
6	164	406	31	145	314	56	122	313	81	ND	
7	164	370	32	144	278	57	121	305	82	99	305
FM 8 258	163	328	33	143	304	58	121	301	83	98	281
9	162	323	34	142	291	59	120	303	FM 84 Clear	97	333
10	2		35	141	323	60	119	293	85	96	280
11	161	369	36	140	311	61	118	321	86	95	299
12	160	358	37	139	299	62	117	318	87	94	331
13	159	315	38	139	274	63	116	305	88	93	298
14	159	335	39	138	314	64	115	301	89	92	321
15	158	306	40	137	306	65	114	310	90	91	304
16	157	310	41	136	306	66	113	305	91	90	274
17	156	296	42	135	333	67	112	305	92	89	316
FM 25 118 258	156	310	FM 43 57 258	134	299	68	111	304	93	ND	
19	155	316	44	133	301	69	110	306	94	88	315
20	154	305	45	132	321	70	110	302	95	87	300
21	153	313	46(2)	131	264	71	109	311	96	86	288
22	152	329	47	131	313	72	108	320	97	85	290
23	151	306	48	130	301	73	107	303	98	84	318
24	151	299	49	129	303	74	106	301	99	83	301
25	150	313	50	128	315	75	105	319	100	ND	

AN/TPS-59 FLIGHT TEST

Date _____ Flight # 5c

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	81	340	26	58	315	51			76		
2	80	311	27	58	318	52			77		
3	80	288	28			53			78		
4	79	326	29			54			79		
5	78	313	30			55			80		
6	77	333	31			56			81		
7	76	311	32			57			82		
8	75(2)	301	33			58			83		
9	74	315	34			59			84		
10	73	298	35			60			85		
11	72	301	36			61			86		
12	71	306	37			62			87		
13	70	305	38			63			88		
14(2)	69	324	39			64			89		
15	69	300	40			65			90		
16	68	323	41			66			91		
17	67	310	42			67			92		
18	66	304	43			68			93		
19	65	313	44			69			94		
20	64	318	45			70			95		
21	63	319	46			71			96		
22	62	313	47			72			97		
23	61	318	48			73			98		
24	60	318	49			74			99		
25	59	323	50			75			100		

AN/TPS-59 FLIGHT TEST

(1)

Date 6/3/76 Flight # 6a

Time 0315 Starting Range 58

Freq. (f#) [illegible]

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	58	311	26	77	346	51	98	308	76	119	315
2	59	319	27	77	329	52	NO		77	120	315
3	59	318	28	[illegible]	[illegible]35	53	99	315	78	121	300
4	60	318	29	79	309	54	100	305	79	122	306
5	61	318	30	80	338	55	101	304	80	123	323
6	62	314	31	81	311	56	102	274	81	124	313
7	62	323	32	82	310	57	103(2)	302	82	125	346
8	63	320	33	82	278	58	[illegible]	308	83	125	296
9	64	311	34	83	319	59	[illegible]	[illegible]	84	126	[illegible]
10	65	330	35	24	311	60	[illegible]	[illegible]	85	127	330
11	65	313	36	85	315	61	106	311	86	128	306
12	66	302	37	86	299	62	107	313	87	129	320
13	67	316	38	87	306	63	108	293	88	130	290
14	68	311	39	87	301	64	109	278	89	131	328
15	68	313	40	88	299	65	110	311	90	132	[illegible]
16	69	315	41	89	319	66	111	296	91	2	
17	70	305	42	90	310	67	112	304	92	133	296
18	71	318	43	91	303	68	112	308	93	134	315
19	71	305	44	92	323	69	113	328	pm 94 33	135	310
20	72	304	45	93	310	70	114	331	95	136	306
21	73	319	46	93	315	71	45	299	96	137	314
22	74	323	47	94	303	72	116	325	97	138	301
23	74	313	48	95	311	73	117	311	98	139	31
24	75	329	49	96	314	74	118	311	99	139	[illegible]
25	76	333	50	97	298	75	118	318	100	140	373

Date _____ Flight # _____

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	141	289	26	164	346	51			76		
PM 33 2	142	303	27	164	397	52			77		
3	143	309	28	ND		53			78		
4	141	318	29	ND		54			79		
5	145	321	30	ND		55			80		
6	146	326	31	ND		56			81		
All clear	147	266	PM 3233	0		57			82		
8	148	313	33	ND		58			83		
9	148	333	34	ND		59			84		
10	149	319	35	0		60			85		
11	150	283	36			61			86		
12	151	348	37			62			87		
13	152	316	38			63			88		
14	153	276	39			64			89		
15	154	296	40			65			90		
16	155	3[illegible]	41			66			91		
17	156	323	42			67			92		
18	156	323	43			68			93		
19	157	271	44			69			94		
20	158	385	45			70			95		
21	159	308	46			71			96		
22	160	303	47			72			97		
PM 37 23	161	372	48			73			98		
24	ND		49			74			99		
25	ND		50			75			100		

1 of 2

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 6B

Time 0340 Starting Range 170

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	170	32.4	26	148	33.4	51	124	30.9	76	100	24.6
2	169	32.6	27	147	33.4	52	123	32.1	77	ND	
3	168	30.6	28	146	30.3	53	122	30.8	78	98	26.8
4	ND		PM 33 29	145	34.4	54	121	29.3	79	97	32.4
5	ND		30	144	30.5	55	120	31.9	80	96	28.4
6	166	39.1	31	143	32.4	56	119	30.8	81	95	32.0
7	165	32.0	32	142	30.5	57	118	32.1	82	94	31.4
8		0	33	141	29.9	58	117	30.0	83	93	30.1
9	163	30.0	PM 000 34	140	30.3	59	116	29.5	84	92	32.5
10		2	35	139	32.6	60	116	31.1	85	91	31.3
11	ND		36	138	29.1	61	115	30.9	86	91	31.3
12	161	35.1	37	137	29.6	62	114	31.3	87	90	30.9
13	160	33.3	38	136	34.5	63	113	28.4	88	89	29.8
14		2	39	136	31.4	64	112	28.8	89	88	31.1
15	158	36.3	40	135	32.0	65	111	31.3	90	87	30.2
16	157	32.3	41	134	33.4	66	110	30.8	91	86	29.8
17	156	28.8	42	133	30.5	67	109	[illegible]	92	85	28.8
18	155	34.9	43	132	31.9	68	108	[illegible]	93	84	32.4
19	154	33.3	44	131	32.8	69	107	31.8	94	83	32.6
PM 3320	153	33.4	45	130	35.3	70	106	30.9	95	82	31.0
21	152	30.9	46	129	30.8	71	105	29.0	96	81	32.0
22	151	32.1	47	128	30.8	72	104	31.0	97	80	30.9
23	151	35.5	48	127	32.9	73	103	29.8	98	79	32.7
24	150	32.8	49	126	33.6	74	102	32.1	99	78	31.3
25	149	31.5	50	125	30.6	75	101	29.4	100	77	31.3

AN/TPS-59 FLIGHT TEST

2 of 2

Date 6/3/76 Flight # 6B

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	76	311	26			51			76		
2	75	310	27			52			77		
3	74	319	28			53			78		
4	73	314	29			54			79		
5	72	310	30			55			80		
6	71	311	31			56			81		
7	70	311	32			57			82		
8	69	309	33			58			83		
9	68	320	34			59			84		
10	67	310	35			60			85		
11	66	306	36			61			86		
12	65	309	37			62			87		
13	64	319	38			63			88		
14	63	320	39			64			89		
15			40			65			90		
16	61	320	41			66			91		
17	61	318	42			67			92		
18	60	320	43			68			93		
19	59	323	44			69			94		
20	58	316	45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

AN/TPS-59 FLIGHT TEST

Pg 1/2

Date 6/3/76 Flight # 6C

Time 0400 Starting Range 62

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	62	31.9	26	84	294	51	106	308	76	128	32.4
2	63	32.6	27	85	316	52	107	318	77	128	31.1
3	64	31.?	28	86	316	53	108	310	78	129	313
4	65	31.8	CAL	87	316	54	109	306	79	130	33
5	65	31.0	30	88	305	55	109	306	80	131	33.5
6	66	309	31	89	319	56	110	310	81	132	34.0
7	67	306	32	89	300	57	111	31.1	82	133	30.6
8	68	318	33	96	304	58	112	32.1	83	134	32.1
9	69	306	34	91	32.1	59	113	30.9	84	[illegible]	[illegible]
10	70	310	35	92	316	60	114	306	85	136	33.0
11	ND		36	93	32.1	61	115	30.1	86	136	31.7
12	71	31.4	37	94	30.6	62	115	31.9	87	137	31.9
13	72	31.1	38	95	30.1	63	116	29.5	88	138	32.1
14	73	310	39	95	303	64	117	32.4	89	139	31.5
15	74	311	40	96	305	65	118	32.1	90	140	28.8
PM 363	75	320	41	97	320	66	119	32.1	91	141	333
17	76	31.4	42	98	29.9	67	120	29.4	92	142	30.8
18	77	32.5	43	99	32.1	68	121	31.4	93	143	30.6
19	78	29.6	44	100	32.3	69	122	30.5	94	144	33.9
20	0		45	101	30.5	70	122	30.4	95	145	308
21	80	30.6	46	102	31.0	71	123	33.1	96	146	32.1
22	80	28.5	47	102	31.3	72	124	31.3	97	146	313
23	81	311	48	103	31.6	73	125	30.9	PM 383	147	323
24	82	311	49	(2)		74	126	304	99	148	316
EOL PM 33 25	83	308	50	105	31.5	75	127	324	100	149	30.1

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 6C

Time 0400 Starting Range _____

Freq. (f#) _____

#g 2/2

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	150	301	26	ND		51			76		
2	151	316	27	33 ND		52			77		
3	152	344	28	175	41,0	53			78		
4	153	301	29	ND		54			79		
5	150	368	30			55			80		
6	155	355	31			56			81		
7	156	326	32			57			82		
8	(2)		33			58			83		
9	157	318	34			59			84		
10	158	284	35			60			85		
11	159	368	36			61			86		
12	160	31,6	37			62			87		
13	161	340	38			63			88		
14	162	310	39			64			89		
15	163	349	40			65			90		
16	164	309	41			66			91		
17	165	306	42			67			92		
18	166	339	43			68			93		
19	166	339	44			69			94		
20	167	336	45			70			95		
21	168	371	46			71			96		
22	169	309	47			72			97		
23	170	32,4	48			73			98		
24	171	364	49			74			99		
25	ND		50			75			100		

AN/TPS-59 FLIGHT TEST

Date 6/3/26 Flight # 3C (Repeat)

Time 0432 Starting Range 203

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	203	43.4	26	184	39.3	51	158	40.9	76	132	38.9
2	202	37.5	27	183	46.0	52	157	41.6	77	131	38.3
3	0		28	0		53	156	41.1	78	130	39.6
4	ND		29	DND		54	155	42.8	79	129	37.4
5	ND		30	180	41.6	55	154	40.9	80	128	42.9
6	ND		31	179	45.1	PM33	153	40.8	81	127	39.9
7	ND		32	0		57	152	42.5	82	126	41.4
8	197	39.9	33	177	38.4	58	151	39.6	83	125	40.6
9	196	44.3	34	176	43.8	59	150	41.0	84	124	39.5
10	ND		35	175	42.5	60	149	45.5	85	123	39.9
11	ND		36	174	40.3	61	148	41.5	86	122	42.0
12	ND		37	173	44.1	62	147	42.8	87	121	41.9
13	194	33.8	38	172	39.5	63	146	39.5	88	120	39.5
14	193	42.1	39	171	40.5	64	145	40.8	89	119	40.5
15	192	46.9	40	170	38.6	CLOS PM33	144	38.5	90	118	39.8
16	ND		41	169	39.5	66	143	39.5	91		
17	ND		42	168	37.4	67	142	39.6	92		
18	ND		43	167	39.9	68	140	42.3	93		
19	189	42.0	44	166	38.6	69	139	39.9	94		
20	189	36.3	45	165	42.1	70	138	38.1	95		
21	ND		46	164	41.4	71	137	42.0	96		
22	187	38.6	47	163	39.0	72	136	40.0	97		
23	186	41.1	48	162	38.3	73	135	39.4	98		
24	0		49	161	39.6	74	134	39.5	99		
25	184	40.8	50	160	39.8	75	133	38.6	100		

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 10a

Time 0545 Starting Range 6

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	6	25	26	ND		51	32	28	76	ND	
2	6	25	27	ND		52	32	31	77	46	35
3	7	25	28	ND		53	33	25	78		
4	7	24	29	NT 20	25	54	33	29	79		
5	8	25	30	13/c		55	34	26	80		
6	8	25	31	21	25	56	ND		81		
7	ND		32	?	NT	57	35	23	82		
8	9	25	33	22	25	58	35	24	83		
9	10	25	34	23	29	59	36	33	84		
10	10	24	35	23	29	60	37	26	85		
11	11	25	36	R		61	37	26	86		
12	11	26	37	24	20	62	38	33	87		
13	O		38	25	21	63	R		88		
14	12	23	39	25	24	64	39	24	89		
15	13	25	40	26	23	65	39	30	90		
16	13	25	41	26	24	66	40	38	91		
17	14	26	42	27	25	67	40	33	92		
18	14	25	43	27	25	68	41	33	93		
19	15	23	44	28	23	69	42	39	94		
20	ND		45	29	33	70	42	39	95		
21	ND		46	O		71	43	39	96		
22	ND		47	30	21	72	43	40	97		
23	17	23	48	30	21	73	44	45	98		
24	17	28	49	31	29	74	44	30	99		
25	18	28	50	31	23	75	ND		100		

Date 6/3/76 Flight # 10B

Time 0600 Starting Range 43

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	43	43	26	29	31	51	15	26	76		
2	ND		27	O		52	14	26	77		
3	42	48	28	28	33	53	14	23	78		
4	42	34	29	27	30	54	13	25	79		
5	41	23	30	27	34	55	O		80		
6	40	43	31	26	29	56	12	25	81		
7	40	18	32	26	30	57	12	26	82		
8	O		33	2		58	11	25	83		
9	O		34	25	30	59	O		84		
10	ND		35	24	26	60	ND		85		
11	37	25	36	24	25	61	9	26	86		
12	ND		37	23	26	62	9	24	87		
13	O		38	2		63	8	25	88		
14	36	25	39	22	28	64	8	25	89		
15	35	26	40	21	30	65	7	23	90		
16	35	15	41	21	25	66	(NT) 7	25	91		
17	34	25	42	20	28	67	6	25	92		
18	34	19	43	ND		68	ND		93		
19	33	31	44	O		69	5	25	94		
20	32	30	45	18	25	70	4	24	95		
21	32	28	46	ND		71	4	25	96		
22	31	25	47	17	29	72	3	25	97		
23	31	26	48	17	25	73	3	25	98		
24	30	28	49	16	26	74	4	25	99		
25	30	35	50	ND		75			100		

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 10a

Time 0610 Starting Range 7

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	7	25	26	20	25	51	33	29	76		
2	7	24	27	20	24	52	33	28	77		
3	8	25	28	21	31	53	34	26	78		
4	8	23	29	21	28	54	34	34	79		
5	9	23	30	22	28	55	35	30	80		
6	NO		31	22	29	56	36	40	81		
7	10	25	32	23	29	57	36	29	82		
8	10	26	33	23	26	58	37	21	83		
9	11	24	34	24	24	59	37	28	84		
10	11	26	35	24	31	60	38	21	85		
11	12	25	36	25	30	61	38	34	86		
12	12	24	37	25	26	62	39	18	87		
13	13	24	38	26	24	63	39	30	88		
14	13	26	39	26	25	64	40	30	89		
15	14	25	40	27	28	65	40	28	90		
16	14	24	41	27	28	66	ND		91		
17	15	21	42	28	26	67			92		
18	15	24	43	29	29	68			93		
19	16	23	44	29	30	69			94		
20	16	28	45	2		70			95		
21	17	26	46	30	24	71			96		
22	17	29	47	31	30	72			97		
NT 23	18	28	48	31	28	73			98		
24	18	28	49	32	31	74			99		
25	19	26	50	32	33	75			100		

AN/APS-59 FLIGHT TEST

Date 6/3/75 Flight # 10d

Time 0622 Starting Range 38

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
NT 1	38	29	26	25	24	51	12	24	76		
2	38	29	27	25	26	52	11	28	77		
3	37	32	28	24	20	53	10	25	78		
4	37	36	29	24	25	54	10	25	79		
5	2		30	23	25	55	7	24	80		
6	36	30	31	22	25	56	9	24	81		
7	2		32	22	25	57	8	24	82		
8	35	28	33	21	28	58	8	25	83		
9	34	30	34	21	26	PH 59 3	7	25	84		
10	34	30	35	20	24	60	7	24	85		
11	33	34	36	20	28	61	6	25	86		
12	33	31	37	19	23	62	6	25	87		
13	32	29	38	0		63	5	24	88		
14	32	30	39	ND		64	4	25	89		
15	31	26	40	ND		65	4	24	90		
16	31	24	PH 4133	17	23	66	3	25	91		
17	30	31	42	ND		67			92		
18	30	23	43	16	24	68			93		
19	29	26	44	15	24	69			94		
20	28	25	45	ND		70			95		
21	28	26	46	14	24	71			96		
22	27	26	47	14	24	72			97		
23	27	29	48	13	23	73			98		
24	ND		49	13	25	74			99		
25	26	16	50	12	24	75			100		

AN/APS-59 FLIGHT TEST

Date 6/3/76 Flight # 10c

Time 0635 Starting Range 6

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	6	25	26	19	24	51	32	26	76		
2	6	24	27	20	28	52	33	30	77		
3	7	24	28	20	26	53	32	26	78		
4	7	25	29	21	29	54	34	28	79		
5	8	23	30	21	25	55	35	34	80		
6	8	25	31	22	24	56	35	35	81		
7	9	25	32			57	36	29	82		
8	9	25	33	23	21	58	36	24	83		
9	10	25	34		ND(BY)	59	37	30	84		
10	11	25	35	24	34	60	37	30	85		
11	11	24	36	24	26	61	38	29	86		
12	12	25	37	25 BY	20	62	38	43	87		
13	12	23	38	26 BY	24	63	39	38	88		
14	13	23	39	26	29	64	39	36	89		
15	13	25	40	27	23	65	40	39	90		
16	14	23	41	27	26	66	40	41	91		
17	14	24	42	28	26	67	41	34	92		
18	15	24	43	28	26	68			93		
19	15	26	44	29	25	69			94		
20	16	25	45	29	28	70			95		
21	16	29	46	30	30	71			96		
22	ND		47	30	24	72			97		
23	ND		48	31	28	73			98		
24	18	25	49	31	35	74			99		
25	19	29	50	32	34	75			100		

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 6/3/78

Time 0655

1. Phase Measurement Program

Rows Out

Σ	ΔAz
3, 41	5

Total # of Σ Rows Out 2

Sensitivity Loss (10 log n/54) -.16 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing ✓ OK

6. PM D6 Listing

Tx Rows Out

21, 53

Total # of Tx Rows Out 2

Sensitivity Loss (20 log n/54) -.33 dB

Total Sensitivity Loss -.49 dB

Power Supply Checks

Unit 5 ✓

Unit 6 ✓

Unit 7 ✓

Time Meter Readings

Array 5266.6

Cont. Shelter 6058.5

Proc. Shelter 6233.1

GE Test Director [signature]

Gov't Witness [signature]

0645
6/3/76
Post Flight

INPUT UNDERWAY

:RU

NOW PERFORMING:

DOL OUTPUT (64 WDS) F: 6

1:	60	2:	75	3:	77	4:	61
5:	63	6:	65	7:	63	8:	66
9:	53	10:	62	11:	78	12:	58
13:	64	14:	55	15:	79	16:	51
17:	53	18:	72	19:	61	20:	56
21:	72	22:	71	23:	62	24:	55
25:	66	26:	54	27:	55	28:	61
29:	64	30:	53	31:	53	32:	52
33:	55	34:	62	35:	54	36:	53
37:	51	38:	57	39:	50	40:	57
41:	103	42:	110	43:	51	44:	75
45:	56	46:	43	47:	52	48:	49
49:	61	50:	64	51:	42	52:	59
53:	73	54:	73				

:

LOOP B PROGRAM 2
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE

4 5 8 9

10A B C AND D

21A B C D E AND F

22A B AND C

23A B C AND D

25A AND B

26A AND B

27A AND B

29A AND B

30 37A B AND C

TWO DUMMY TESTS 40A

AND 40B

6/2-3/76
Post-Flight
6:54 am

RESPOND--9

AUTOMATIC FAULT STATUS
0010100000000200100000000000000

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 8.

	MEAN	STD
AZ	-.015	.026
EL	.024	.021
SUM	71.68	1.37
RG	731.19	0.0
SUM -I	26.88	1.20
SUM -Q	58.39	1.09
D AZ-I	29.46	1.22
D AZ-Q	61.45	0.95
D EL-I	28.71	1.30
D EL-Q	66.68	1.28

6/3/76
0705
Post-Flight

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7    21  204   17  277   59  339   15  345   16  176   85  164   54  171
 A
7    21  204   16  274   59  340   16  256   13  113   86  317   55  315
7    22  203   17  277   59  339    2  277   17   16   82  324   65  315
7    21  204   17  277   59  340   14   65   11  276   85  246   64  247
7    22  203   16  273   59  340   17  315    1    .   86  164   56  176
7    21  204   17  276   59  339   17  191   16   46   85  120   66  127
7    21  202   16  273   59  340   21  114   22  336   81  317   67  226
7    21  204   17  277   58  339   20  351   17  227   85  247   65  254
7    21  204   17  277   59  340   25  279   26  122   86   55   66   67
7    21  204   16  273   59  339   23  176   27   19   87  167   65  176
7    21  204   17  276   59  340   25   91   25  277   86  152   64  191
7    21  204   17  277   59  339   20  326   21  176   75   31   61   58
7    22  203   17  273   58  339   23  216   21   56   78   59   67   65
7    21  204   17  277   60  340   27  129   22  264   86    1   62   16
7    21  204   17  277   59  341   21    5   23  227   85  146   67  101
7    21  204   16  277   59  339   25  256   22   59   86   71   61   62
7    21  204   17  277   59  340   23  161   22   16   85   79   62   61
7    21  204   17  277   59  340   20   80   22  237   84  244   66  149
7    21  204   17  277   59  340   23  325   27  161   86  112   67  129
7    21  204   17  273   59  340   22  216   24   27   79   84   66   66
7    21  204   17  276   62  340   27  192   24    4   86   76   46  105
7    21  204   17  276   59  339   23    8   26  262   86   86   64  100
7    22  203   16  273   62  340   25  278   21  117   81   62   62   76
7    21  204   16  276   59  339   25  191   24   16   87  172   61  101
7    21  204   17  273   58  340   20   43   26  262   81   14   65  64
7      21  204   17  273   59  340   24  347   24  189   86  267   65  255
7    21  204   17  277   59  339   23  112   26  341   80  124   67   66
7    21  204   17  273   59  339   23   13   26  266   79   22   66  101
7    21  204   16  276   59  339   20  209   26  135   84   77   67  240
7    21  204   17  273   59  339   23  162   22   27   83  275   66  132
7    22  203   17  273   58  339   23   93   24  204   80  214   66   65
7    21  204   16  276   59  340   23  320   26  165   80   84   64  156
7    21  203   17  273   59  339   23  224   21  132   84  162   66   11
7    21  204   16  275   60  340   25  191   23    3   82  110   67  304
7    21  204   17  277   60  340   23   55   26  209   84    7   61  100
7    21  204   16  276   59  340   26  266   21  141   86  174   66  129
7    22  203   16  276   58  339   22  100   26   19   85  300   65  199
7    21  204   17  277   60  340   26   67   24  267   81  136   67  269
7    21  204   16  273   59  340   23  341   25  208   85  340   66  100
7    21  204   16  276   59  339   25  279   22  126   86  198   64  216
7    21  204   17  277   60  340   19  174   26   32   81  329   66  121
7      21  204   17  273   58  340   24  347   25  265   86  340   64  165
7    22  203   16  273   59  339   31  316   20  164   81  311   66  128
7    21  204   17  273   59  340   22  267   23   75   84  134   69    8
7    21  202   16  273   59  340   23   96   21  332   81   68   62  227
7    21  204   17  277   59  340   21    5   20  241   86  165   94  345
7    21  204   17  273   59  340   15  243   16  135   79   28   66  192
7    22  203   17  277   59  339   13  144   17   36   82  142   66  317
7    21  204   17  273   59  340   13   68   16  277   76   44   62  212
7    21  204   17  273   59  339   13  233   16  176   87  271   91   97
7    21  204   17  273   59  339   16  191   12   81   82  208   66   34
7    21  204   17  277   62  341   12  134   15  335   66  227   62   55
7    22  203   16  276   62  341   14    8   12  201   56   74   47  169
7    21  204   17  277   59  340    9  251    9  131   86  254   65   66
```

0645
6/3/76
Post flight

02

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	206
SP - SP	(47 MIN)	104
SR - LFM	(47 MIN)	83
MTI - LFM	(13 MAX)	3

6/2-3/76
Post flight
6:50

FLSTOP

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

6/3/76
0200
Pat Tilt

	MEAN	STD
AZ	- .008	.037
EL	- .071	.007
SUM	2[illegible].67	1.23
RG	3318.58	0.0
AZ - 4	.168	.318
EL - 4	- .0[illegible]	.016
SUM -I4	41.51	2.57
SUM -Q4 -	31.73	2.36
D AZ-I4	47.96	0.24
D AZ-Q4 -	27.46	3.22
D EL-I4	41.[illegible]	3.0
D EL-Q4 -	34.69	2.06
SUM - 4	50.98	2.98
AZ - 3	- .006	.014
EL - 3	- .082	.013
SUM -I3	46.92	2.30
SUM -Q3	1.12	0.41
D AZ-I3	50.62	2.83
D AZ-Q3	0.69	0.58
D EL-I3	45.34	0.75
D EL-Q3 -	2.64	2.76
SUM - 3	47.41	3.46
AZ - 2	- .156	.016
EL - 2	- .070	.016
SUM -I2	12.95	3.30
SUM -Q2	43.81	3.38
D AZ-I2	19.73	0.67
D AZ-Q2	41.60	0.51
D EL-I2	17.68	0.72
D EL-Q2	47.32	0.94
SUM - 2	49.78	0.40
AZ - 1	- .157	.014
EL - 1	- .054	.016
SUM -I1	42.96	0.24
SUM -Q1 -	9.03	0.3
D AZ-I1	54.[illegible]6	1.04
D AZ-Q1 -	14.68	3.79
D EL-I1	45.21	0.58
D EL-Q1 -	13.54	2.89
SUM - 1	46.96	0.24

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 6/2/76

Time 2015

1. Phase Measurement Program

Rows Out	
Σ	ΔAz
3, 41	

Total # of Σ Rows Out 2

Sensitivity Loss (10 log n/54) .16 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing _____ OK

6. PM D6 Listing

Tx Rows Out

Total # of Tx Rows Out _____

Sensitivity Loss (20 log n/54) _____ dB

Total Sensitivity Loss .16 dB

Power Supply Checks

Unit 5 ✓

Unit 6 ✓

Unit 7 ✓

Time Meter Readings

Array 5279.9

Cont. Shelter 6071.8

Proc. Shelter 6286.4

GE Test Director H. Bonis

Gov't Witness R J LaVine

6/8/76
2024

14 1F

15A B C AND D

17A B C AND D

18A B AND C

TWO ENDAY TESTS 15A AND B

RD SHORT--1D
DO YOU WANT TO MODIFY OR CHANGE CURRENT INSTRUCTION SET
TYPE M OR C OR N N

ANTOMATIC FAULT STATUS
1818[illegible]

TARGET 1 NO. MESSAGES 12[illegible].

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	.034	.009
EL	- .060	.009
SUM	192.33	3.96
RG	3318.58	0.0
AZ - 4	.163	.013
EL - 4	- .051	.014
SUM -I4	41.00	0.0
SUM -Q4 -	28.85	0.55
D AZ-I4	41.00	0.0
D AZ-Q4 -	19.86	0.51
D EL-I4	36.96	0.24
D EL-Q4 -	30.51	0.72
SUM - 4	55.03	0.19
AZ - 3	- .023	.023
EL - 3	- .088	.020
SUM -I3	45.00	0.0
SUM -Q3	3.23	0.47
D AZ-I3	49.01	0.12
D AZ-Q3	2.36	1.05
D EL-I3	43.00	0.0
D EL-Q3 -	0.72	0.69
SUM - 3	46.24	0.44
AZ - 2	- .111	.015
EL - 2	- .035	.015
SUM -I2	13.07	0.25
SUM -Q2	41.42	0.70
D AZ-I2	17.75	0.57
D AZ-Q2	40.07	1.04
D EL-I2	15.53	0.69
D EL-Q2	43.70	0.71
SUM - 2	47.49	0.71
AZ - 1	- .039	.017
EL - 1	- .071	.020
SUM -I1	41.00	0.0
SUM -Q1 -	7.22	0.62
D AZ-I1	51.43	0.64
D AZ-Q1 -	11.19	0.58
D EL-I1	43.14	0.42
D EL-Q1 -	16.90	0.62

LOOP B PROGRAM 2
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE

4 5 8 9

10A B C AND D

21A B C D E AND F

[illegible]A E AND C

[illegible]A B C AND D

[illegible]A AND C

[illegible]A AND D

[illegible]A AND E

[illegible]A AND E

[illegible]A [illegible] A AND C

TWO DUMMY TESTS 48A

AND 48B

6/3/76
20:22

RESPOND--?

AUTOMATIC FAULT STATUS
[illegible]

TARGET 1 NO. MESSAGES 10[illegible].

NO. MULTIPLE REPLYS [illegible].

NUMBER OF REPLYS WITH NO TGT DETECTIONS [illegible].

	MEAN	STD
AZ	.01[illegible]	.[illegible]
EL	.[illegible]	.[illegible]
SUM	79.61	1.45
DC	731.19	[illegible].[illegible]
SUM -I	27.35	1.51
SUM -Q	56.85	1.26
D AZ-I	26.35	1.31
D AZ-Q	56.65	1.13
D EL-I	26.12	1.[illegible]
D EL-Q	5[illegible].70	1.18

6/3/76
20:30

FLSTOP

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3

6/23/76
20:15

BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

```
7   15  207   12  275   45  341   13  327   12  171   60  143   60  171
 A
7   17  204   13  270   49  339   14  245   12   99   66  274   66  284
7   18  203   14  274   49  337    3  161   16    7   62  253   66  259
7   17  204   14  270   50  336   13   54   10  259   80  274   62  216
7   18  203   14  270   49  337   15  297   15  172   63  122   91  159
7   13  200   14  270   51  337   15  182   14   34   65   62   67  114
7   16  203   14  272   51  337   21  121   23  321   69  279   66  296
7   13  203   14  274   51  337   13  336   14  214   72  216   62  201
7   18  203   14  270   51  336   24  270   24  127   66   27   61   56
7   18  203   14  270   52  335   23  160   24    2   61  129   90  153
7   13  203   14  270   51  336   25   36   24  262   65  161   66  121
7   18  203   14  270   51  336   34  314   35  164   65    3   64   11
7     18  203   14  274   51  337   25  272   29   66   62   13   61   43
7   16  207   14  270   51  335   34  114   37  328   66  329   94  340
7   18  203   13  270   51  336    3  7 351   41  214   66  111   67  113
7   17  204   14  272   51  336   33  235   31   66   76   66   65   65
7   15  200   14  270   51  336   39  150   43    8   77   42   66   73
7   18  203   14  270   51  336   47   64   70  262   79  216   66  234
7   18  199   15  270   52  335   49  343   46  104   65   64   65  112
7   19  203   14  270   50  336   46  253   43   45   66  335   66   16
7   19  201   14  270   51  335   45   66   45   34   45   47   65  171
7   18  203   14  270   51  335   48  323   46  104   66  150   61  213
7   19  205   14  270   51  335   51  334   46  110   75   64   66   54
7   18  199   15  270   52  335   51  139   50    6   64  240   90  260
7   19  203   14  270   51  335   51   26   47  246   62  337   66  324
7   19  203   14  270   51  335   41  326   50  173   61  269   66  309
7   18  203   14  270   51  335   42  114   42  325   65   56   62   46
7   19  201   14  270   51  335   46    1   50  227   66  330   63  170
7   19  199   14  270   51  336   38  279   42  122   77   45   62  226
7   18  203   14  270   51  335   43  148   46   16   85  291   92   66
7   19  201   14  266   51  335   46   34   51  267   65  100   67   14
7   18  199   15  270   52  335   46  315   50  177   79   51   90  253
7     18  203   14  269   51  336   42  210   39   89   85  163   93  356
7   18  199   14  270   51  336   49  138   42  351   85   85   91  261
7   18  199   15  266   51  335   42   22   44  226   85  346   93  176
7   18  200   14  266   52  336   36  273   36  126   86  273   83  108
7   18  200   15  270   52  336   41  167   44    5   80  329   86  144
7   18  199   14  270   51  336   25   53   23  272   82   13   90  186
7   18  199   15  270   51  335   39  327   33  189   80  313   86  120
7   18  203   14  270   51  335   33  262   29  114   80  122   85  298
7   18  199   15  270   52  335    7  157   26   20   80  257   86  116
7   19  201   14  270   52  335   25   54   21  251   88  314   86  141
7   18  199   14  272   51  335   26  324   26  160   85  279   89  180
7   18  199   15  270   52  335   20  194   22   83   85  166   93  352
7   18  200   14  270   51  335   16   84   19  319   79   25   82  266
7   19  201   15  270   52  335   23  354   18  231   80  127   86  321
7   19  201   14  270   52  335   13  234   14  119   85    1   91  102
7   18  203   15  272   51  335   16  132   15   23   82  125   86  297
7   18  200   15  266   51  333   13   46   15    3   73   82   11   85  154
7   18  200   14  270   51  335   12  254   14  172   84  248   81  186
7   18  200   15  266   51  333   10  164   10   66   80  172   86    9
7   18  200   14  270   51  335   11   85   12  321   81  197   86   83
7   18  203   14  270   52  335   15    0 10  214   49   46   35  173
7   18  199   15  270   52  336    9  238    8  120   78  222   79   47
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
```

20:55 6/3/76

Preflight

D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	60	2:	55	3:	63	4:	57
5:	63	6:	58	7:	63	8:	66
9:	55	10:	60	11:	66	12:	55
13:	60	14:	51	15:	79	16:	51
17:	53	18:	66	19:	62	20:	56
21:	8	22:	76	23:	59	24:	51
25:	63	26:	50	27:	53	28:	57
29:	60	30:	49	31:	56	32:	40
33:	53	34:	63	35:	52	36:	50
37:	49	38:	53	39:	39	40:	62
41:	91	42:	112	43:	49	44:	76
45:	54	46:	43	47:	49	48:	46
49:	56	50:	54	51:	42	52:	45
53:	33	54:	62				

2210
6/3/76

DE

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	265
SR - SP	(47 MIN)	114
SR - LFM	(47 MIN)	60
MTI - LFM	(15 MAX)	3

Rewound tape

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 86

Time 28 Starting Range 9

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	9	103	26	28	100	51			76		
2	ND		27	28	100	52			77		
3	11	100	28	2		53			78		
4	12	100	MST	30	101	54			79		
5	12	99	30	31	96	55			80		
6	13	100	31	31	96	56			81		
7	0		32	32	99	57			82		
8	15	101	33	33	98	58			83		
9	15	103	34	34	100	59			84		
10	16	101	35	34	101	60			85		
11	17	100	36	35	100	61			86		
12	17	99	37	36	91	62			87		
13	18	98	38	37	98	63			88		
14	19	101	39	37	101	64			89		
15	ND		40	38	100	65			90		
16	20	106	41	39	98	66			91		
17	21	103	42	40	100	67			92		
18	22	103	43	40	101	68			93		
19	22	98	44	41	104	69			94		
20	23	96	45	42	105	70			95		
21	2		46	42	103	71			96		
22(2)	25	104	47	43	104	72			97		
23	25	100	48			73			98		
24	2		49	Aborted		74			99		
25	27	104	50			75			100		

AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

2 OF 7
AD
A056 284



PM27J

:R
DEFUN

:

ACU AND S/SPDC ARE NOT IN SYNC

:

FILE 21 HAS 00033 RECORDS WITH 20363 ERRORS

:

FLT Test
6/3-4/76
Near beginning of First flight
@ 43 min
2221 hrs

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 86

Time 2230 Starting Range 81

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	66	96	51	51	98	76	2	
2	81	115	27	65	101	52	50	101	77	35	98
3	81	110	28	65	113	53	50	100	78	35	95
4	ND		29	64	96	54	49	101	79	34	98
5	79	89	30	64	93	55	49	104	80	34	96
6	79	113	31	63	95	56	48	98	81	33	96
7	78	118	32	62	100	57	47	99	82	32	100
8	ND		33	62	93	58	47	98	(= 83	32	100
9	ND		34	61	95	59	46	96	84	31	99
10	ND		35	61	99	60	46	101	85	30	95
11	ND		36	O		61	45	101	86	30	99
12	75	99	37	59	101	62	44	101	87	29	98
13	74	90	38	59	109	63	44	101	88	29	101
14	74	100	39	58	108	64	43	111	89	28	96
15	ND		40	58	98	65	43	101	NOT	2	
16	72	94	41	57	103	66	42	106	91	27	101
17	ND		42	56	105	67	41	101	92	26	99
18	71	123	43	56	108	68	41	104	93 NT	2	
19	70	105	44	55	105	69	40	104	94	25	101
20	70	98	45	55	93	70	40	103	95	24	101
21	69	104	46	54	99	71	39	100	96	24	101
22	68	103	47	53	95	72	38	100		23	101
23	68	104	48	53	101	73	38	99	98	22	103
24	67	98	49	52	96	74	37	96	99	22	101
25	67	99	50	52	95	75(2)	37	91	100	21	99

(2)

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 86

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	21	103	26	ND		51			76		
2	NT		27	ND		52			77		
3	19	101	28	ND		53			78		
4	ND		29			54			79		
5	18	104	30			55			80		
6	ND		31			56			81		
7	17	98	32			57			82		
8	ND		33			58			83		
9	16	101	34			59			84		
10	15	100	35			60			85		
11	15	103	36			61			86		
12	14	101	37			62			87		
13	13	101	38			63			88		
14	ND		39			64			89		
15	BY		40			65			90		
16	11	100	41			66			91		
17	11	101	42			67			92		
18	ND		43			68			93		
19	10	103	44			69			94		
20	9	101	45			70			95		
21	ND		46			71			96		
22	8	103	47			72			97		
23	7	101	48			73			98		
24	7	106	49			74			99		
25	ND		50			75			100		

RA
085

AN/TPS-59 FLIGHT TEST

(1)

Date 6/4/76 Flight # 8c

Time 6040 Starting Range 11

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	11	103	26	25	101	51	41	99	76	57	113
2	11	101	27	26	103	52	42	100	77	58	105
3	12	100	28	27	101	53	43	99	78	59	96
4	ND		29	27	100	54	43	96	79	59	104
5	13	100	30	28	99	55	44	106	80	60	106
6	13	101	31	28	99	56	45	100	81	61	104
7	14	100	32	29	100	57	45	98	82	61	106
8	15	104	33	30	95	58	46	103	83	62	106
9	15	100	34	30	95	59	47	113	84	63	98
10	ND		35	31	99	60	47	101	85	63	105
11	ND		36	32	96	61	48	101	86	64	100
12	17	100	37	32	94	62	49	98	87	64	110
13	ND		38	33	94	63	49	94	88	65	118
14	18	101	39(2)	34	98	64	50	94	89	66	118
15	ND		40	R		65	50	98	90	66	118
16 (OAC)	21	94	41	35	101	66	51	98	91	66	121
17 (WAC)	21	94	42	36	95	67	52	96	92	67	121
18	20	103	43	R		68	52	96	93	67	120
19	21	103	44	37	94	69	53	95	94	68	99
20	22	99	45	38	99	70	54	100	95	69	86
21	R		46	38	91	71	54	99	96	O	
22(2)	23	103	47	39	105	72	55	96	97	70	100
23	R		48	40	106	73	55	100	98	71	98
24	24	101	49	40	101	74	56	101	99	71	104
25	25	99	50	41	96	75	57	96	100	72	104

AN/TPS-59 FLIGHT TEST

(2)

Date 6/4/76 Flight # 8a

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	73	106	26			51			76		
2	74	105	27			52			77		
3	74	101	28			53			78		
4	75	79	29			54			79		
5	ND		30			55			80		
6	ND		31			56			81		
7	ND		32			57			82		
8	78	110	33			58			83		
9	ND		34			59			84		
10	80	100	35			60			85		
11	80	99	36			61			86		
12	ND		37			62			87		
13	82	114	38			63			88		
14	82	110	39			64			89		
15	ND		40			65			90		
16	84	98	41			66			91		
17	ND		42			67			92		
18	ND		43			68			93		
19	ND		44			69			94		
20	ND		45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

L

260

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 9a

Time 0100 Starting Range 57

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	41	58	51	25	51	76	ND	
2	ND		27	40	56	52	24(2)	54	77	ND	
3	55	64	28	39	53	53	24	51	78	8	50
4	54	65	29	39	59	54	23	48	79	8	50
5	54	64	30	38	55	55	22	48	80	7	51
6	ND		31	37	44	56	22(3)	49	81	7	51
7	52	73	32	37	54	57	21	46	82	6	50
8	O		33	36	53	58	21	50	83	5	51
9	51	63	34	36	55	59	O		84	5	50
10	51	60	35	35	51	60	19	48	85	4	50
11	ND		36	34	55	61	ND		86	4	51
12	49	60	37	34	49	62	ND		87		
13	49	64	38	33	50	63	18	49	88		
14	48	61	39	32	51	64	17	48	89		
15	48	59	40	32	48	65	16	51	90		
16	ND		41	31	51	66	16	50	91		
17	46	43	42	31	50	67	15	49	92		
18	46	60	43	13	NT?	68	14	50	93		
19	ND		44	29	48	69	14	50	94		
20	44	60	45	29	45	70	ND		95		
21	44	65	46	28	48	NT	13	50	96		
22	43	66	47	O		72	12	49	97		
23	42	58	48	2		73	11	53	98		
24	42	55	49	26	54	74	11	51	99		
25	41	59	50	2		75	10	51	100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 0125 Flight # 9B

Time _____ Starting Range 7

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	7	5.1	26	23	4.9	51	46	5.4	76		
2	8	5.1	27	24	4.9	52	40	4.9	77		
3	8	5.1	28	25	4.6	53	41	5.4	78		
4	ND		29	(2)		54	42	6.0	79		
5	ND		30	26	18.6	55	42	5.4	80		
6	10	5.1	31	27	5.0	56	43	5.8	81		
7	11	5.0	32	27	5.1	57	44	5.5	82		
8	12	5.0	33	28	5.0	58	44	6.0	83		
9	ND		34	29	5.5	59	45	6.0	84		
10	13	4.9	35	29	5.3	60	0		85		
11	ND		36	30	5.1	61	46	6.1	86		
12	0		37	31	4.9	62	47	5.6	87		
13	15	5.0	38	31	5.3	63	47	5.8	88		
14	ND		39	32	5.0	64	48	5.9	89		
15	ND		40	33	4.5	65	49	6.4	90		
16	ND		41	33	5.1	66	49	6.1	91		
17	18	4.8	42	34	5.5	67	50	6.4	92		
18	18	4.9	43	34	5.0	68	51	5.9	93		
19	19	4.8	44	35	5.4	69	ND		94		
20	ND		45	36	5.3	70	ND		95		
21	20	5.3	46	36	5.4	71	53	7.4	96		
22	21	4.8	47	37	5.1	72	ND		97		
23	22	5.0	48	38	4.8	73	59	6.6	98		
24	22	4.8	49	38	5.4	74	59	6.0	99		
25	ND		50	39	5.6	75			100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 9C

Time 0135 Starting Range 52

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	52	64	26	36	4.8	51	21	49	76	5	49
2	51	64	27	35	5.3	52	(2)		77	4	50
3	50	46	28	35	4.9	53	ND		78	4	50
4	0		29	34	5.0	54	ND		79	3	51
5	49	63	30	34	4.8	55	18	48	80		
6	48	55	31	33	5.0	56	ND		81		
7	48	63	32	32	4.9	57	ND		82		
8	47	55	33	32	5.3	58	16	51	83		
9	47	59	34	31	5.1	59	15	51	84		
10	46	61	35	30	4.9	60	15	51	85		
11	45	5.6	36	30	4.8	61	14	51	86		
12	45	6.1	37	0		62	13	49	87		
13	44	5.4	38	29	5.0	63	13	49	88		
14	43	5.3	39	28	4.9	64	12	50	89		
15	43	5.6	40	27	4.9	65	11	48	90		
16	42	5.1	41	27	5.1	66	11	49	91		
17	42	6.1	42	26	5.1	67	10	50	92		
18	41	5.6	43	N.T.		68	10	51	93		
19	40	5.8	44	25	5.6	69	ND		94		
20	40	5.0	45	24	5.0	70	8	51	95		
21	39	5.6	46	24	4.9	71	8	50	96		
22	38	5.0	47	23	5.5	72	7	51	97		
23	38	5.3	48	22	4.9	73	7	51	98		
24	37	5.0	49	22	5.1	74	ND		99		
25	37	5.0	50	22	5.3	75	5	50	100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 12A

Time 0150 Starting Range 11

Freq. (f#) 2-7

Pg 1/2

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	11	51	26	20	53	51	31	52	76	42	49
2	11	51	27	21	51	52	32	56	77	42	53
3	11	50	28	21	49	53	32	54	78	43	55
4	12	50	29	22	49	54	32	54	79	43	49
5	12	54	30	ND		55	33	55	80	44	56
6	12	54	31	23	51	56	33	59	81	44	51
7	ND		32	23	110	57	34	50	82	44	54
8	13	51	33	(2)		58	34	53	83	45	61
9	ND		34	24	11.8	59	35	54	84	45	55
10	ND		35	24	4.9	60	35	58	85	46	53
11	ND		36	25	5.0	61	35	53	86	46	63
12	14	51	37	(2)		62	36	55	87	46	55
13	15	51	38	(2)		63	36	54	88	47	45
14	ND		39	26	54	64	37	46	89	0	
15	ND		40	27	45	65	37	59	90	48	53
16	ND		41	27	50	66	38	50	91	48	53
17	ND		42	27	55	67	38	50	92	49	53
18	NT		43	28	49	68	38	50	93	49	53
19	ND		44	28	51	69	39	43	94	50	53
20	18	48	45	29	53	70	39	49	95	50	61
21	18	48	46	29	54	71	40	51	96	51	60
22	ND		47	ND		72	40	53	97	51	51
23	19	50	48	30	46	73	41	53	98	52	65
24	20	53	49	30	45	74	41	48	99	NT	
25	20	49	50	31	49	75	41	53	100	52	68

AN/TPS-59 FLIGHT TEST

Date 6/9/76 Flight # 12A Pg 2/2

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	53	39	26			51			76		
2	53	61	27			52			77		
3	54	60	28			53			78		
4	54	79	29			54			79		
5	0		30			55			80		
6	55	61	31			56			81		
7	55	41	32			57			82		
8			33			58			83		
9			34			59			84		
10			35			60			85		
11			36			61			86		
12			37			62			87		
13			38			63			88		
14			39			64			89		
15			40			65			90		
16			41			66			91		
17			42			67			92		
18			43			68			93		
19			44			69			94		
20			45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 12 B Pg 1/2

Time 0210 Starting Range 57

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	0		26	45	58	51	32	56	76	ND	
2	57	60	27	44	60	52	32	56	77	18	54
3	56	64	28	44	58	53	31	54	78	19	50
4	NT?	56-56	29	43	55	54	31	50	79	18	49
5	55	48	30	43	54	55	30	48	80	18	49
6	55	59	31	42	55	56	30	48	81	17	49
7	55	56	32	42	56	57	29	46	82	17	50
8	54	48	33	41	59	58	29	44	83	16	51
9	54	56	34	41	54	59	28	48	84	16	53
10	53	61	35	40	51	60	28	50	85	15	53
11	53	51	36	40	51	61	27	53	86	15	50
12	52	58	37	39	54	62	27	53	87	14	53
13	52	59	38	39	55	63	(2)		88	14	51
14	51	60	39	38	50	64	(2)	NT	89	13	49
15	51	60	40	38	39	65	25	53	90	13	50
16	50	66	41	37	54	66	24	49	91	12	50
17	50	61	42	37	54	67	24	50	92	12	50
18	49	59	43	36	53	68	23	51	93	11	50
19	48	59	44	36	53	69	23	53	94	11	53
20	48	58	45	35	54	70	22	55	95	10	54
21	47	55	46	35	56	71	22	54	96	10	51
22	47	60	47	34	59	72	22	51	97	9	51
23	46	59	48	34	58	73	21	50	98	9	53
24	46	56	49	33	55	74	21	55	99	8	51
25	45	59	50	33	58	75	20	55	100	ND	

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 12B

Time _____ Starting Range 57

Freq. (f#) 2-7

Pg 1 1/2

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26			51			76		
2	7	53	27			52			77		
3	6	53	28			53			78		
4	6	51	29			54			79		
5	6	53	30			55			80		
6	5	55	31			56			81		
7	5	51	32			57			82		
8	4	57	33			58			83		
9	4	51	34			59			84		
10	3	53	35			60			85		
11	ND		36			61			86		
12			37			62			87		
13			38			63			88		
14			39			64			89		
15			40			65			90		
16			41			66			91		
17			42			67			92		
18			43			68			93		
19			44			69			94		
20			45			70			95		
21			46			71			96		
22			47			72			97		
23			48			73			98		
24			49			74			99		
25			50			75			100		

1~

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 12c

Time 0230 Starting Range 6

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	6	54	26	19	48	51	35	54	76	51	66
2	ND		27	ND		52	35	51	77	51	54
3	6	53	28	20	53	53	36	51	78	52	58
4	7	53	29	21	50	54	37	54	79	2	
5	ND		30	22	55	55	37	54	80	53	51
6	8	53	31	22	44	56	38	56	81	54	48
7	ND		32	3		57	39	54	82	54	58
8	9	53	33	2		58	39	53	83	55	65
9	N	D	34	ND		59	40	54	84	56	43
10	ND		35	25	49	60	40	53	85	56	53
11	11	51	36	25	49	61	41	53	86	57	64
12	11	50	37	26	51	62	42	53	87	58	55
13	12	51	38	27	54	63	42	54	88	59	46
14	12	51	39	NT		64	43	54	89	60	50
15	13	51	40	2		65	44	55	90	ND	
16	N	D	41	29	53	66	44	59	91	ND	
17	ND		42	29	53	67	45	60	92		
18	ND		43	30	53	68	46	55	93		
19	ND		44	2		69	46	61	94		
20	ND		45	2(NT)		70	47	61	95		
21	16	53	46	32	55	71	47	66	96		
22	17	53	47	32	58	72	48	61	97		
23	17	48	48	33	54	73	49	69	98		
24	18	51	49	34	55	74	49	55	99		
25	19	48	50	34	56	75	50	60	100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 12d

Time 0245 Starting Range 60

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	60	64	26	45	60	51	30	49	76	16	53
2	59	69	27	45	61	52	30	51	77	15	56
3	59	65	28	44	56	53	29	48	78	O	
4	58	69	29	44	54	54	29	48	79	14	50
5	58	66	30	43	60	55	28	49	80	14	54
6	57	59	31	42	61	56	R NT		NT 81	13	49
7	56	56	32	42	55	57	27	51	82	12	51
8	56 (R)	64	33	R		58	26	55	83	12	51
9	55	56	34	41	56	59	26	51	84	11	53
10	55	55	35	40	54	60	25	50	85	11	54
11	54	66	36	39	51	61	25	50	86	ND	
12	R NT		37	39	54	62	R		87	10	54
13	53	59	38	R		63	24	53	88	9	53
14	52	58	39	38	53	64	23	54	89	ND	
15	52	61	40	37	54	65	22	55	90	8	53
16	51	63	41	36	48	66	22	49	91	7	53
17	51	58	42	WAC (ND)		67	21	50	92	7	54
18	50	61	43	35	56	68	21	54	93	6	53
19	49	59	44	35	54	69	20	50	94	5	53
20	49	59	45	WAC		70	ND		95	5	51
21	48	58	46	33	50	71	ND		96	4	53
22	48	70	47	33	53	72	ND		97	4	53
23	47	61	48	32	55	73	18	53	98	~~NT~~ O	
24	46	58	49	32	59	74	17	44	99		
25	46	63	50	31	56	75	ND		100		

R.F. D70

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 13a

Time 2025 Starting Range 6

Freq. (f#) 2→7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	24	100	51	44	93	76	63	95
2	ND		(2)27	25	99	52	45	108	77	64	99
3	8	101	28	2		53	45	96	78	65	95
4	ND		29	27	99	54	46	104	79	66	113
5	ND		30	28	96	55	47	98	80	67	99
6	ND		31	28	101	56	48	99	81	67	115
7	ND		32	29	99	57	49	104	82	68	103
8	11	100	33	30	101	58	49	96	83	69	105
9	12	101	34	31	103	59	50	99	84	70	104
10	12	100	35	31	103	60	51	103	85	70	105
11	13	100	36(WT)	32	95	61	52	83	86	71	104
12	14	99	37	33	104	62	52	90	87	72	109
13	O		38	34	99	63	53	89	88	73	100
14	15	101	39	34	101	64	54	91	89	74	115
15	16	98	40	2		65	55	95	90	74	120
16	ND		41	36	99	66	56	101	91	75	91
17	18	103	42	37	96	67	56	109	92	76	103
18	18	99	43	38	98	68	57	111	93	77	104
19	19	103	44	38	101	69	58	108	94	78	95
20	20	104	45	39	101	70	59	94	95	78	86
21	21	104	46	40	100	71	59	101	96	79	98
22	21	99	47	41	104	72	60	100	97	80	91
23(2)	22	96	48	41	108	73	61	101	98	81	99
24	23	98	49	42	109	74	62	105	99	O	
25	24	101	50	43	98	75	63	96	100	82	76
										O	
										84	109
										ND	
										85	96
										86	95
										87	98
										88	101
										89	99

AN/TPS-59 FLIGHT TEST

RT
2.55

Date 6/3/76 Flight # 136

Time 2310 Starting Range 87

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	87	90	26	66	101	51	44	109	76	23	?
2	86	101	27	65	96	52	44	100	77	22	100
3	85	95	28	64	100	53	43	98	78	21	105
4	85	98	29	63	105	54	42	106	79	21	103
5	O		30	62	104	55	41	103	80	ND	
6	83	109	31	61	108	56	40	75	81	ND	
7	82	93	32	61	99	57	39	100	82	ND	
8	81	98	33	60	99	58	38	99	83	ND	
9	80	95	34	59	103	59	38	98	84	ND	
10	80	91	35	58	111	60	37	91	85	ND	
11	79	100	36	57	96	61	36	93	86	15	100
12	78	94	37	56	109	62	35	95	87	14	99
13	77	104	38	56	110	63	34	95	88	13	100
14	76	108	39	55	104	64	33	95	89	12	100
15	75	105	40	54	95	65	32	96	90	11	100
16	75	108	41	53	94	66	2		91	10	100
17	74	104	42	52	85	67	2		92	ND	
18	73	110	43	51	88	68	30	99	93	ND	
19	72	128	44	51	90	69	29	98	94	8	101
20	71	106	45	50	103	70	28	99	95	ND	
21	70	113	46	49	96	71	27	94	96	ND	
22	69	96	47	48	99	72	26	96	97	5	101
23	68	100	48	47	104	73	26	99	98	ND	
24	68	99	49	46	99	74	25	99	99	ND	
25	67	110	50	45	100	75	24	100	100		

RT
070

AN/TPS-59 FLIGHT TEST

Date 6/3/76 Flight # 13c

Time 2330 Starting Range 10

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	35	98	51	59	114	76	84	106
2	12	98	27	36	93	52	60	108	77	85	85
3	13	99	28	37	96	53	61	109	78	86	96
4	14	101	29	38	96	54	62	109	79	ND	
5	15	99	30	39	101	55	63	119	80	88	76
6	ND		31	40	105	56	64	115	81		
7	17	99	32	41	109	57	65	114	82		
8	18	101	33	42	110	58	66	105	83		
9	19	99	34	42	106	59	67	108	84		
10	ND		35	43	110	60	68	103	85		
11	21	103	36	44	105	61	69	110	86		
12	2		37	45	108	62	◯		87		
13	22	99	38	46	109	63	71	99	88		
14	23	99	39	47	106	64	72	118	89		
15	24	99	40	48	103	65	73	121	90		
16	25	98	41	49	118	66	74	103	91		
17	26	99	42	50	104	67	75	108	92		
18	27	98	43	51	103	68	76	113	93		
19	28	93	44	52	101	69	77	114	94		
20	29	95	45	53	99	70	◯		95		
21	30	96	46	54	103	71	79	95	96		
22	31	99	47	55	101	72	80	124	97		
23	32	101	48	56	104	73	81	96	98		
24	33	100	49	57	106	74	82	71	99		
25	34	94	50	58	106	75	83	121	100		

AN/TPS-59 FLIGHT TEST

Date 6/3/75 Flight # 13A

Time 1142 Starting Range 83

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	83	108	26	59	113	51	35	100	76	11	94
2	82	114	27	58	111	52	34	100	77	0	
3	81	100	28	57	95	53	33	99	78	ND	
4	ND		29	(2)	[56 101]	54	32	101	79	9	94
5	79	101	30	55	101	55	31	96	80	ND	
6	ND		31	54	98	56	30	96	81	7	93
7	77	96	32	53	98	57	29	98	82	6	95
8	76	104	33	52	104	58	28	96	83	5	95
9	0		34	51	103	59	27	94	84	ND	>14
10	74	110	35	50	104	60	(2)	(26 94)	85		
11	73	104	36	49	106	61	(2)		86		
12	72	104	37	48	100	62	(2)		87		
13	71	106	38	47	104	63	23	93	88		
14	70	111	39	46	101	64	23	94	89		
15	69	105	40	45	113	65	22	93	90		
16	69	105	41	45	108	66	21	91	91		
17	68	99	42	44	108	67	20	94	92		
18	67	110	43	43	103	68	ND		93		
19	66	120	44	42	104	69	18	96	94		
20	65	108	45	41	108	70	17	94	95		
21	64	110	46	40	103	71	16	94	96		
22	63	105	47	39	96	72	15	95	97		
23	62	109	48	38	101	73	14	96	98		
24	61	110	49	37	100	74	ND		99		
25	60	109	50	36	95	75	12	94	100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 17A

Time 0405 Starting Range 26

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	(2)		51	0		76	21	426
2	ND		27	36	411	52	31	410	77	7	425
3	ND		28	36	416	53	5		78	2	429
4	26	396	29	37	411	54	50	411	79	3	424
5	ND		30	(2)		55	51	418	80	2	423
6	26	403	31	0		56	51	426	81	2	420
7	ND		32	38	420	57	12		82	2	416
8	ND		33	31	411	58	2		83	2	423
9	ND		34	40	418	59	53	402	84	60	414
10	ND		35	40	415	60	53	405	85	2	
11	26	404	36	41	410	61	31	407	86	60	418
12	26	400	37	41	415	62	54	414	87	2	425
13	28	425	38	42	416	63	53	417	88	2	403
14	29	430	39	2		64	1	402	89	2	417
15	29	441	40	43	417	65	1	402	90	2	
16	(2)		41	43	420	66	54	427	91	69	404
17	(2)		42	44	416	67	5	402	92	20	413
18	(2)		43	5		68	57	407	93	0	
19	(2)		44	45	415	69	58	414	94	71	404
20	(2)		45	46	415	70	5	418	95	71	413
21	(2)		46	47	415	71	1	420	96	2	410
22	32	420	47	48		72	1	415	97	2	411
23	0		48	49	415	73	60	407	98	3	415
24	34	416	49	49	415	74	60	411	99	3	420
25	35	415	50	0		75	61	413	100	ND	

AN/TPS-59 FLIGHT TEST

Pg 2

Date _____ Flight # _____

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	74	403	26	0		51	NT		76	113	373
2	75	406	27	88	428	52	NT		77	114	384
3	75	424	28	8	406	53	NT		78	114	401
4	76	423	29	89	411	54	NT		79	115	394
5	6	429	30	89	405	55	NT		80	115	389
6	7	410	31	90	406	56	NT		81	116	396
7	7	411	32	ND		57	103	394	82	116	376
8	ND		33	ND		58	104	400	83	0	
9	ND		34	ND		59	104	398	84	0	
10	0		35	ND		60	105	390	85	2	
11	79	423	36	ND		61	NT		86	118	368
12	80	403	37	0		62	106	418	87	119	396
13	80	?	38	NT		63	106	404	88	119	391
14	81	424	39	94	415	64	107	400	89	120	391
15	82	418	40	NT		65	107	413	90	120	409
16	0		41	ND		66	NT		91	121	388
17	0		42	0		67	NT		92	121	406
18	0		43	ND		68	109	386	93	122	426
19	84	396	44	ND		69	ND		94	ND	
20	84	415	45	97	405	70	0		95	123	446
21	ND		46	97	400	71	110	413	96	0	
22	ND		47	98	415	72	111	416	97	126	396
23	86	404	48	98	409	73	112	409	98	124	404
24	0		49	ND		74	112	435	99	125	383
25	0		50	102	419	75	113	396	100	126	393

AN/APS-59 FLIGHT TEST

Date _____ Flight # _____

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	126	384	26	39	406	51	52	363	76	64	375
2	27	385	27	39	435	52	52	386	77	65	441
3	27	391	28	140	400	53	53	435	78	65	393
4	28	390	29	140	426	54	53	415	79	66	391
5	28	386	30	41	390	55	54	411	80	66	418
6	29	400	31	41	405	56	54	38(2)	81	67	410
7	29	386	32	42	445	57	(2)		82	67	393
8	30	409	33	42	388	58	155	386	83	68	386
9	30	394	34	43	393	59	156	405	84	68	414
10	31	406	35	43	541	60	56	436	85	69	359
11	31	405	36	44	415	61	57	389	86	69	405
12	32	403	37	45	413	62	0		87	ND	
13	32	406	38	45	420	63	158	415	88	170	413
14	33	401	39	46	359	64	158	415	89	ND	
15	NT		40	46	399	65	59	416	90	171	436
16	34	384	41	47	381	66	59	416	91	2	463
17	34	376	42	NT		67	NT		92	0	
18	0		43	98	398	68	60	438	93	173	419
19	35	469	44	48	410	69	ND		94	23	414
20	36	401	45	49	418	70	161	408	95	174	415
21	36	411	46	49	399	71	162	420	96	24	406
22	30	405	47	150	405	72	62	444	97	25	396
23	37	410	48	50	383	73	63	453	98	25	415
24	38	394	49	NT		74	63	375	99	76	435
25	38	385	50	51	336	75	64	419	100	76	421

AN/TPS-59 FLIGHT TEST

Date _____ Flight # _____

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	77	451	26	89	419	51	201	463	76		
2	(1)		27	90	428	52	ND		77		
3	(1)		28	NT		53	ND		78		
4	178	405	29	191	413	54	ND		79		
5	79	399	30	ND		55	ND		80		
6	79	441	31	ND		56	ND		81		
7	80	396	32	ND		57	ND		82		
8	80	428	33	ND		58	ND		83		
9	81	378	34	NT		59	205	568	84		
10	81	369	35	ND		60			85		
11	82	310	36	ND		61			86		
12	82	414	37	194	364	62			87		
13	83	389	38	95	473	63			88		
14	ND		39	(1)		64			89		
15	ND		40	96	486	65			90		
16	ND		41	96	390	66			91		
17	ND		42	97	433	67			92		
18	85	420	43	97	448	68			93		
19	86	394	44	8	429	69			94		
20	86	426	45	8	485	70			95		
21	87	390	46	9	453	71			96		
22	87	433	47	9	458	72			97		
23	88	405	48	200	401	73			98		
24	88	456	49	200	464	74			99		
25	89	445	50	201	525	75			100		

AN/TPS-59 FLIGHT TEST

Date 6/4/76 Flight # 176

Time 0435 Starting Range 204

Freq. (f#) 2-7

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	ND		26	192	450	51	180	474	76	161	[illegible]
2	ND		27	192	426	52	179	404	77	[illegible]	[illegible]
3	ND		28	191	406	53	179	405	78	160	395
4	ND		29	ND		54	177	401	79	[illegible]	[illegible]
5	202	524	30	190	375	55	178	457	80	[illegible]	[illegible]
6	202	425	31	190	396	56	[illegible]	407	81	164	376
7	ND		32	189	406	57	[illegible]	453	82	[illegible]	[illegible]
8	ND		33	189	433	58	[illegible]	371	83	[illegible]	[illegible]
9	ND		34	188	381	59	176	400	84	163	425
10	ND		35	188	431	60	175	485	85	162	406
11	ND		36	187	421	61	175	418	86	[illegible]	[illegible]
12	ND		37	187	405	62	174	454	87	[illegible]	[illegible]
13	NT		38	186	413	63	[illegible]	[illegible]	88	[illegible]	[illegible]
14	O		39	O		64	[illegible]	436	89	[illegible]	[illegible]
15	198	398	40	17[illegible]	423	65	[illegible]	[illegible]	90	[illegible]	[illegible]
16	197	403	41	ND		66	[illegible]	[illegible]	91	[illegible]	[illegible]
17	197	383	42	ND		67	[illegible]	[illegible]	92	R BY	
18	ND		43	ND		68	[illegible]	[illegible]	93	158	375
19	NT		44	ND		69	[illegible]	426	94	ND	
20	195	350	45	ND		70	[illegible]	[illegible]	95	157	403
21	195	426	46	182	403	71	[illegible]	[illegible]	96	156	409
22	194	418	47	182	419	72	[illegible]	[illegible]	97	156	419
23	O		48	ND		73	[illegible]	[illegible]	98	155	395
24	193	408	49	181	433	74	[illegible]	[illegible]	99	R	
25	193	373	50	180	373	75	[illegible]	[illegible]	100	154	414

AN/TPS-59 FLIGHT TEST

(C)

Date _____ Flight # 176

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	153	386	26	141	418	51	128	381	76	115	371
2	152	420	27	140	415	52	127	401	77	114	443
3	152	400	28	140	405	53	127	358	78	114	381
4	152	414	29	O		54	126	413	79	113	398
5	151	388	30	139	389	55	126	391	80	113	414
6	151	410	31	138	421	56	125	381	81	112	404
7	150	408	32	138	401	57	125	400	82	111	436
8	150	369	33	137	391	58	O		83	111	380
9	149	379	34	137	393	59	124	396	84	R	
10	O		35	136	426	60	123	390	85	110	389
11	ND		36	136	438	61	123	398	86	109	418
12	148	408	37	135	344	62	122	384	87	109	425
13	ND		38	135	394	63	121	401	88	108	343
14	147	400	39	134	403	64	121	394	89	108	380
15	146	375	40	133	395	65	120	395	90	107	416
16	146	441	41	133	393	66	120	379	91	107	401
17	145	390	42	132	380	67	119	371	92	106	401
18	145	416	43	132	391	68	119	439	93	106	409
19	145	406	44	131	406	69	ND		94	105	388
20	144	423	45	131	403	70	118	403	95	105	381
21	143	399	46	130	395	71	ND		96	104	390
22	ND		47	130	395	72	117	400	97	ND	
23	2 (ND)		48	129	361	73	116	370	98	103	405
24	142	423	49	ND		74	116	401	99	ND	
25	141	411	50	128	379	75	115	385	100	O	

AN/APS-59 FLIGHT TEST

Date _____ Flight # 176

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	101	401	26	O		51	O		76	61	448
2	O		27	ND		52	O		77	60	413
3	100	471	28	87	414	53	73	408	78	60	415
4	O		29	87	415	54	73	404	79	59	414
5	ND		30	O		55	72	410	80	59	406
6	ND		31	O		56	72	405	81	58	415
7	ND		32	85	416	57		416	82	58	408
8	ND		33	ND		58	O		83	57	419
9	97	423	34	O		59	70	384	84	O	
10	ND		35	O		60	69	415	85	57	359
11	ND		36	O		61	69	406	86	56	433
12	ND		37	82	418	62	O		87	2	
13	ND		38	ND		63	NT		88	ND	
14	ND		39	81	428	64	NT		89	54	411
15	ND		40	81	424	65	NT		90	53	404
16	94	400	41	ND		66	66	414	91	53	409
17	ND		42	ND		67	O		92	52	409
18	ND		43	ND		68	65	410	93	O	
19	92	410	44	O		69	65	409	94	51	413
20	O		45	78	406	70	O		95	51	406
21	91	419	46	79	410	71	64	424	96	50	414
22	90	431	47	77	416	72	63	428	97	50	413
23	90	426	48	76	414	73	63	416	98	49	413
24	89	427	49	NT	420	74	62	416	99	49	411
25	ND		50	O		75	61	410	100	48	418
				O							

(4)

AN/TPS-59 FLIGHT TEST

Date _____ Flight # _____

Time _____ Starting Range _____

Freq. (f#) _____

SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM	SCAN#	DET.	DTM
1	48	409	26	34	426	51	O		76		
2	47	414	27	ND		52	O		77		
3	47	405	28	O		53	O		78		
4	46	418	29	33	416	54	O		79		
5	45	415	30	32	416	55	ND		80		
6	45	428	31	NT		56	ND		81		
7	44	411	32	31	470	57	ND		82		
8	44	406	33	O		58			83		
9	43	411	34	O		59			84		
10	43	411	35	O		60			85		
11	42	419	36	28	429	61			86		
12	42	416	37	2		62			87		
13	41	416	38	28	424	63			88		
14	41	420	39	28	420	64			89		
15	40	410	40	27	415	65			90		
16	40	416	41	27	436	66			91		
17	39	418	42	O		67			92		
18	39	416	43	O		68			93		
19	38	410	44	O		69			94		
20	38	410	45	O		70			95		
21	37	414	46	24	440	71			96		
22	37	411	47	O		72			97		
23	36	408	48	2		73			98		
24	36	413	49	23	419	74			99		
25	35	416	50	O		75			100		

PRE/POST FLIGHT SYSTEM STATUS SUMMARY

Date 6/4/76

Time 0645

1. Phase Measurement Program

Rows Out

Σ	ΔAz
3, 41	none

Total # of Σ Rows Out 2

Sensitivity Loss (10 log n/54) -.16 dB

2. Loop B-9 ✓ OK

3. Loop B-15 ✓ OK

4. Fault Location (FFT, MTI, S/SPDC, WFG/PP) ✓ OK

5. PM D2 Listing ✓ OK

6. PM D6 Listing

Tx Rows Out

21, 53

Total # of Tx Rows Out 2

Sensitivity Loss (20 log n/54) -.33 dB

Total Sensitivity Loss -.49 dB

Power Supply Checks

Unit 5 ✓

Unit 6 ✓

Unit 7 ✓

Time Meter Readings

Array 5290.7

Cont. Shelter 6082.5

Proc. Shelter 6297.2

GE Test Director [signature]

Gov't Witness [signature]

TARGET 1 [illegible] MESSAGES [illegible]

NO . MULTIPLE REPLYS [illegible]

NUMBER OF REPLYS WITH NO TGT DETECTIONS [illegible]

6/4/76
0710
Post-Flight

	MEAN	STD
AZ	- .211	.324
EL	.345	.383
SUM	69.59	1.34
RG	731.0	3.3
SUM -I	26.38	1.11
SUM -Q	56.59	1.21
D AZ-I	22.15	1.15
D AZ-Q	58.59	1.02
D EL-I	24.57	1.22
D EL-Q	59.68	1.71

6/4/76
Post-Flight
0706

LOOP B PROGRAM C
THIS PROGRAM PROCESSES LR-4 REPLYS
ACTIVE TEST NUMBERS ARE

14 15

16A B C AND D

17A B C AND D

18A B AND C

TWO DUMMY TESTS 19A AND B

RESPOND--15
DO YOU WANT TO MODIFY OR CHANGE CURRENT INSTRUCTION SET
TYPE M OR C OR N N

AUTOMATIC FAULT STATUS
0010100000322201220000000000000332

TA NUMBER 1 NO. MESSAGES 100.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	- .004	.125
EL	- .049	.038
SUM	197.56	1.63
RG	3318.53	0.0
AZ - A	.169	.013
EL - A	- .053	.013
SUM -14	41.00	0.0
SUM -04	31.69	0.46
D AZ-14	38.32	2.94
D AZ-04	18.97	0.24
D EL-14	39.00	0.0
D EL-04	33.00	0.58
SUM - A	36.84	0.20
AZ - B	- .029	.022
EL - B	- .041	.022
SUM -12	46.84	0.99
SUM -02	1.17	3.52
D AZ-12	45.00	0.0
D AZ-02	8.21	0.99
D EL-12	43.64	0.93
D EL-02	1.37	0.89
SUM - B	46.17	1.10
AZ - C	- .141	.011
EL - C	- .043	.013
SUM -10	13.00	0.29
SUM -00	43.58	0.53
D AZ-10	16.08	0.43
D AZ-00	39.16	0.39
D EL-10	15.60	0.60
D EL-00	44.00	0.0
SUM - C	43.67	0.58
AZ - 1	- .041	.017
EL - 1	- .032	.023
SUM -11	41.79	0.97
SUM -01	8.72	0.60
D AZ-11	51.43	0.56
D AZ-01	12.95	0.19
D EL-11	44.06	1.00
D EL-01	10.67	0.78
SUM - 1	45.53	1.04

Post Flight
6/4/76
0705

FLSTOP

Post-Eight
6/4/76
0650

:D6
INPUT UNDEFINED

:D6

ROW PERFORMANCE

ROW OUTPUT (60 NOM) F: 6

1:	65	2:	50	3:	65	4:	64
5:	57	6:	65	7:	65	8:	71
9:	63	10:	65	11:	7[illegible]	12:	61
13:	62	14:	50	15:	61	16:	54
17:	53	18:	69	19:	65	20:	57
21:	9	22:	61	23:	64	24:	55
25:	68	26:	54	27:	54	28:	60
29:	54	30:	53	31:	59	32:	54
33:	36	34:	69	35:	54	36:	55
37:	51	38:	57	39:	49	40:	56
41:	54	42:	110	43:	56	44:	61
45:	58	46:	45	47:	52	48:	49
49:	61	50:	64	51:	42	52:	52
53:	37	54:	69				

:

Post Fet
6/4/76
0650

D2

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	227
SR - SP	(47 MIN)	109
SF - LFM	(47 MIN)	73
MTI - LFM	(13 MAX)	3

POST FLIGHT
6/4/26
07:17

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7    22  283   16  274   59  339   17  339   16  168   66  164   93  177
 A
7    22  281   17  273   59  339   16  259   11  111   66  325   64  305
7    21  284   16  274   58  339    3  286   16   23   62  322   64  312
7    21  282   17  273   58  339   13   67   12  270   62  250   60  245
7    22  283   16  277   60  338   17  316   17  167   65  152   93  177
7    21  282   17  273   53  339   15  105   16   49   64  162   67  156
7    22  281   17  277   60  338   21  114   22  337   67  314   66  315
7    21  283   17  273   59  339   26  342   21  214   63  301   91  334
7    21  282   17  277   58  339   26  274   26  115   72   46   67   69
7    21  282   17  273   58  339   23  179   25    9   65  162   95  172
7    22  281   17  277   59  339   25   45   22  272   64  150   66  156
7    21  283   16  277   59  339   36  327   36  174   73   36   62   37
7    21  284   16  274   59  339   25  314   21   60   70   46   66   68
7    22  281   17  273   58  338   59  126   38  335   65    2   67   18
7    21  282   17  277   58  339   35    1   41  224   61  143   67  156
7    21  282   17  277   58  339   34  249   33   99   62   65   92   63
7    22  283   16  274   58  339   39  167   43   15   65   77   93   94
7    21  282   16  274   59  342   23   70   42  266   62  237   67  245
7    21  282   17  273   58  338   19  321   46  178   61  119   67  126
7    22  281   17  273   59  338   43  315   46   38   61   19   64   68
7    21  282   17  273   58  339   44  180   45  354   42   72   95  184
7    22  283   16  274   58  339   29    5   32  221   60  126   66  231
7    21  282   17  277   58  338   24  278   32  115   79   52   93   78
7    22  281   16  274   58  339   19  149   33   15   67  262   94  261
7    21  282   16  277   59  339   30   48   38  267   64  359   94  348
7    21  284   16  277   58  339   43  336   53  185   61  251   92  256
7    21  282   16  274   59  339   43  112   47  338   60  126   64   59
7    22  281   17  273   59  339   46   14   36  235   71   35   89  199
7    22  281   17  273   58  339   46  259   45  135   84   78   86  244
7    21  282   17  277   58  339   45  161   52   26   64  252   92   99
7    22  281   16  277   58  339   37   92   34  299   60  206   80   36
7    22  281   16  277   59  339   48  344   32  184   69   61   93  269
7      22  281   16  274   59  339   40  235   39   99   65  165   89   16
7    22  283   16  274   58  339   32  147   45    8   68  165   89  252
7      22  281   17  273   59  339   45   30   46  287   65    5   91  165
7    21  284   16  277   59  338   38  254   48  156   61  255   87  123
7    22  281   16  274   59  339   42  166   44   17   86  342   94  165
7    22  281   16  274   59  339   25   64   24  277   78   48   64  282
7    21  284   16  274   58  338   39  341   34  199   65  339   87  156
7    21  282   16  277   58  339   30  272   31  125   66  171   89  303
7    21  282   16  277   60  338    7  164   27   31   63  356   87  135
7    22  281   16  277   58  339   24   47   22  260   65  341   92  156
7      21  282   16  274   59  339   31  312   28  182   68  305   87  115
7    22  283   16  277   58  339   20  283   22   71   85  189   92    2
7    22  281   17  273   59  338   21   90   20  331   79   57   82  226
7      21  282   17  277   57  339   21    5   23  241   66  164   94  343
7    21  282   16  274   56  339   14  241   16  132   68   24   90  165
7    22  281   16  277   59  339   14  141   17   36   81  141   65  309
7    21  282   17  273   58  339   14   56   15  278   77   58   82  287
7    22  281   16  274   58  339   13  282   15  182   67  267   91   99
7    21  284   16  277   58  339   13  191   11   60   81  243   62   25
7    22  283   16  277   59  339   11  136   13  333   79  225   82   47
7    22  281   16  274   59  339   13    9   12  225   44   74   55  164
7    21  284   17  273   59  339    3  248    3  131   85  253   64   65
```

```
PM258

:

PM000

PM258

:

PM000

:

PM257
PM258

:

PM258

:

PM257
PM258

:

PM258

:

PM000

PM258

:

PM000

:

FILE 03 HAS 20631 RECORDS WITH 0000 ERRORS

:
```

6/4/76

0645

1 hr of SST data recorded

APPENDIX C

CONTROL AND CONTROL CIRCUITS

TEST PROCEDURE

4.1.4.7 Control and Control Circuits Demonstration

4.1.4.7.1 Purpose

This test will establish that the radar controls function in accordance with ELEX-R-50, paragraph 4.2.1.8. In this test, with the radar configured in various operational modes, the Radar Display Console controls, switches and indicators shall be activated and/or adjusted to validate their utility. These tests are of a strictly qualitative nature. Acceptance will not be based upon quantitative data, but rather, judgements that the controls are properly performing their intended functions.

An in-plant Marine may, during any or all of the flight tests, take video strength data and record position readouts at the console in order to accumulate a set of data which can be compared to computer output data. The government may also present this data in graphical form so as to generate plots of target range, height and azimuth vs. scan. Such data will be treated as official test data when initiated by the G.E. test director. It will be included in the Acceptance Test Report. The objective of taking this data is to assist in an evaluation of the console performance and the overall system effectiveness.

4.1.4.7.2 GCI Operation Subtest Procedure

1. Adjust CONTROL, OVERLAY, PANEL and READOUT ILLUMINATION variable attenuators on the PPI and RHI panels.
2. Set the following switches to the indicated position:

MTDS ~~TAOC~~/GCI	to GCI
6 RPM/12 RPM	to 6 RPM
NORMAL 3D/EMER 2D	to NORMAL 3D
RF INHIBIT	to OFF
WEATHER PROGRAM	to OFF
RHI/CHARACTER	to RHI
PPI A/PPI B	to PPI A
160-MILE SWEEP	to ON
UNDEFRUIT IFF	to OFF
DECLARED TARGETS	to ON
RHI SECTOR OUTLINE	to OFF
CLUTTER CENSOR OUTLINE	to OFF
MTDS ~~TAOC~~ CENSOR OUTLINE	to OFF
MTDS ~~TAOC~~ RADAR MAP	to OFF
WEATHER SECTOR OUTLINE	to OFF

3. On the PPI A panel depress and hold the VIDEO CALIBRATE control and adjust the BRIGHTNESS, and VIDEO VARIABLE ATTENUATORS for an optimum presentation.

4. Adjust the RANGE MARKS control until the range marks are visible. They should be present at 20-mile intervals.

5. Observe declared target marks on targets of opportunity. Tag a target at a range greater than 80 miles range with the cursor origin trackball. Continue to track target on subsequent scans. The range and bearing of the cursor origin are shown at the lower left of the panel. The calculated range and height are shown at the upper left of the panel.

6. Tag a second target with the range strobe/target tag trackball. The relative range and bearing of the second target with respect to the cursor origin will be displayed on readouts located at the lower right of the PPI panel. The calculated range and height of the second target are displayed on the upper right of the PPI panel.

7. Select, and tag as above, two targets which are separated by less than 20 miles. Depress the PPI OFFSET control. The display should now be centered on the cursor origin. Select the 20-MILE SWEEP and continue to follow the apparent position.

8. Select the 40-MILE range scale on the RHI. A declared target should appear at the range and height indicated on the computer interceptor readouts on the PPI panel.

9. Stop updating the tag target positions. Note that the NO DATA indicators are on as the targets move from the tag positions.

10. Repeat the preceding tests for PPI-B operation.

11. Check off each step of the above sequence on the Data Sheet of Figure 4.1-9.

M-3

4.1.4.7.3 ~~TAOC~~-Mated Operation Subtest Procedure

1. Set up controls as in paragraph 4.1.4.7.2, steps (1) through (4), except ~~TAOC~~/GCI should be set to ~~TAOC~~. MTVS

2. Using the range strobe/target tag trackball, tag a target of opportunity. The relative range and bearing readouts should correspond to the target position relative to the radar. Observe that the calculated target range and height readouts are operating. The origin range and azimuth should read zero.

3. Continue to track the selected target. Set the RHI range scale for 40 miles. The declared target should appear at the range and height of the calculated readouts.

4. Select RHI outline on the PPI panel. Observe the RHI outline marks about ±20 miles about the target tag.

5. Check off each step of the above sequence on the Data Sheet of Figure 4.1-10.

4.1.4.7.4 Ancillary Controls Subtest Procedure

1. Raise the cover on the system status panel to gain access to the clutter gate controls.

2. Using the clutter censor gates, set up zones around active areas. Observe that there are no declared targets within the zones. As a target moves out of an area, a declared target mark should appear.

3. Depress the RF INHIBIT switch. The indicator should be red and the system should stop radiating.

4. Turn the RF INHIBIT switch off. The system should resume radiation within five seconds.

5. In a period when aircraft are flying through ground clutter, the MTI shall be turned off; note on the PPI reduced detection of the test target. Turn the Normalizer off, note the increase in clutter level on the PPI.

6. While observing targets of opportunity, adjust the "Video Threshold" control from 0 dB to 8 dB, note the increase in noise. Note that the signal-to-noise ratio on the PPI decreases as the "Video Expansion" control is adjusted from one to four.

7. Activate the "Weather Program" switch; set the "Weather Sector" switch to ~~45°~~ 60°. Center the range strobe tag at an azimuth of interest and actuate the "Weather Azimuth Center" switches on the PPI of interest. Note that the weather sector outline appears over a ~~45°~~ 60° angle centered at the tagged azimuth.

11. Depress the 12 rpm control. Note that the antenna rotation speed has increased. After 10 seconds there shall be negligible loss of target detections on the PPI's within 250 nmi. Depress the 6 rpm switch to return the radar to its normal operating mode.

12. Depress the Emergency 2-D switch. This allows the radar to operate independently of the AN/UYK-7; the elevation beamshape becomes CSC squared and it no longer scans in elevation. Hence, no 3-D (i.e., height) data is available; also the maximum range is reduced to 100 nmi. Note that video is still output but declared target marks are not.

13. Return to the 3-D mode. Move the "Height Smoothing Percent" control from 0 - 75%. Note that the height readings on tagged targets vary more slowly as the percent smoothing increases.

14. Observe on PPI A two targets that are closely spaced in range and azimuth but at different elevation angles. Observe the two targets on the RHI, move the RHI target tag bail over the target of interest. Depress the "Height Validate" switch and note that the height readout on the PPI being monitored corresponds to the height noted on the RHI.

15. Check off each step of the above sequence on Data Sheet, Figure 4.1-11.

4.1.4.7.5 Control and Control Circuits Demonstration Pass/Fail Criteria

This test shall be passed when the Data Sheets of Figure 4.1-9, 4.1-10 and 4.1-11 indicate, by check marks only in the "yes" column, that the console control circuits function properly.

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APPENDIX D

TEMPERATURE EXTREMES

Chart #1 - Shelter GP 2 Shift 1

Chart #2 - Shelter GP 2 Shift 2

Chart #3 - Shelter GP 3 Shift 1

Chart #4 - Shelter GP 3 Shift 2

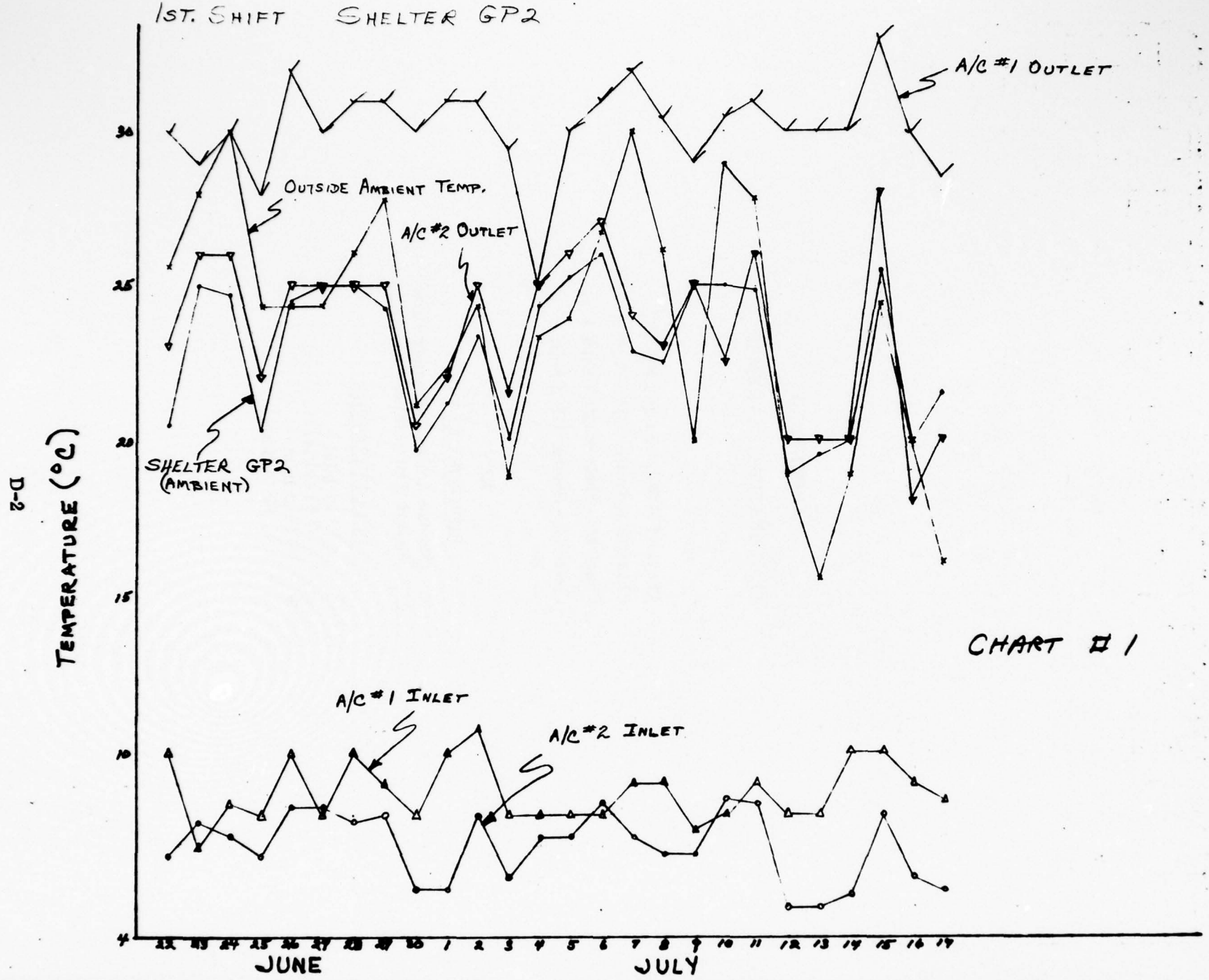
KEY

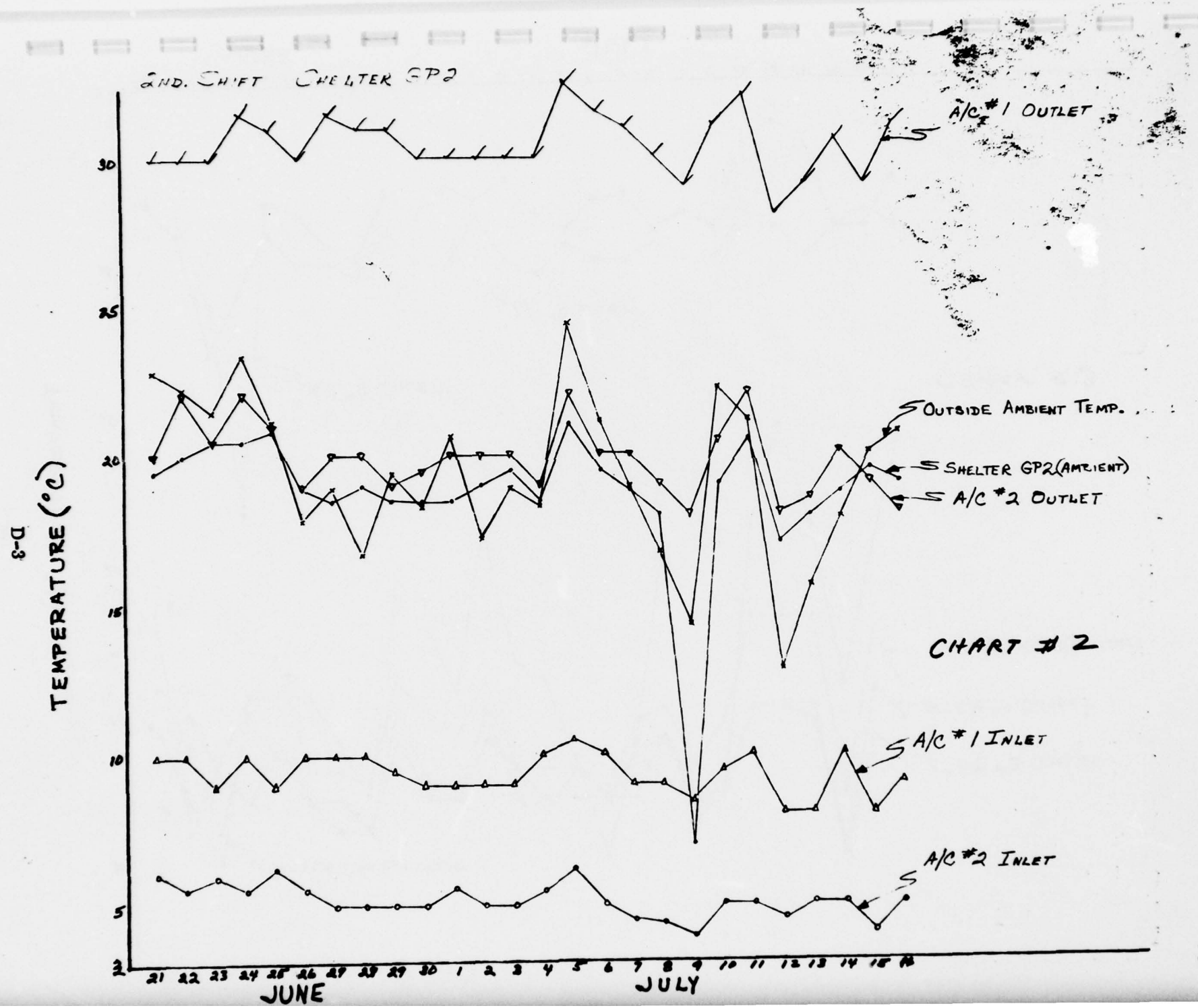
ENVIRONMENT

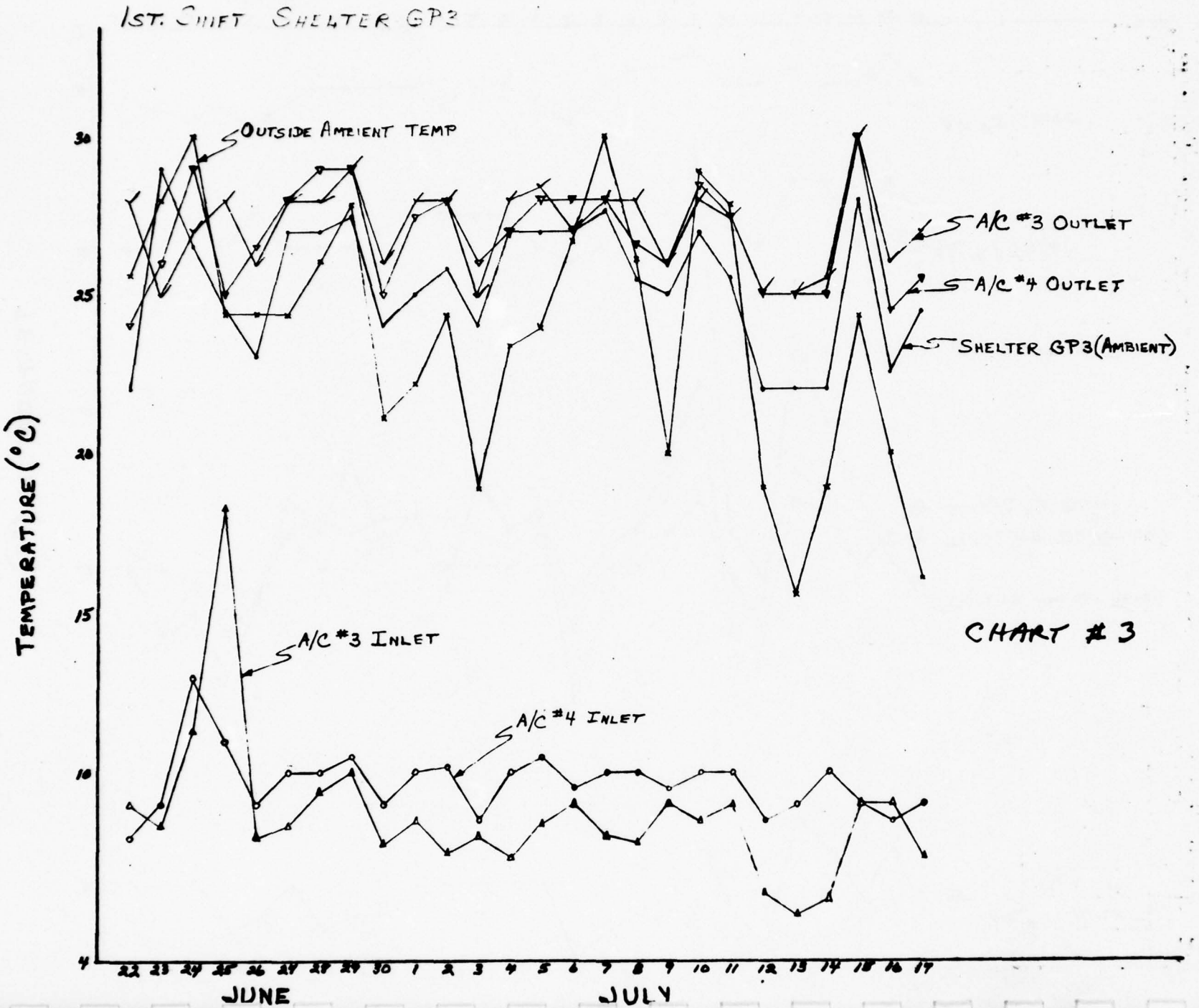
X - Outside Ambient Temperature
● - Shelter Temperature

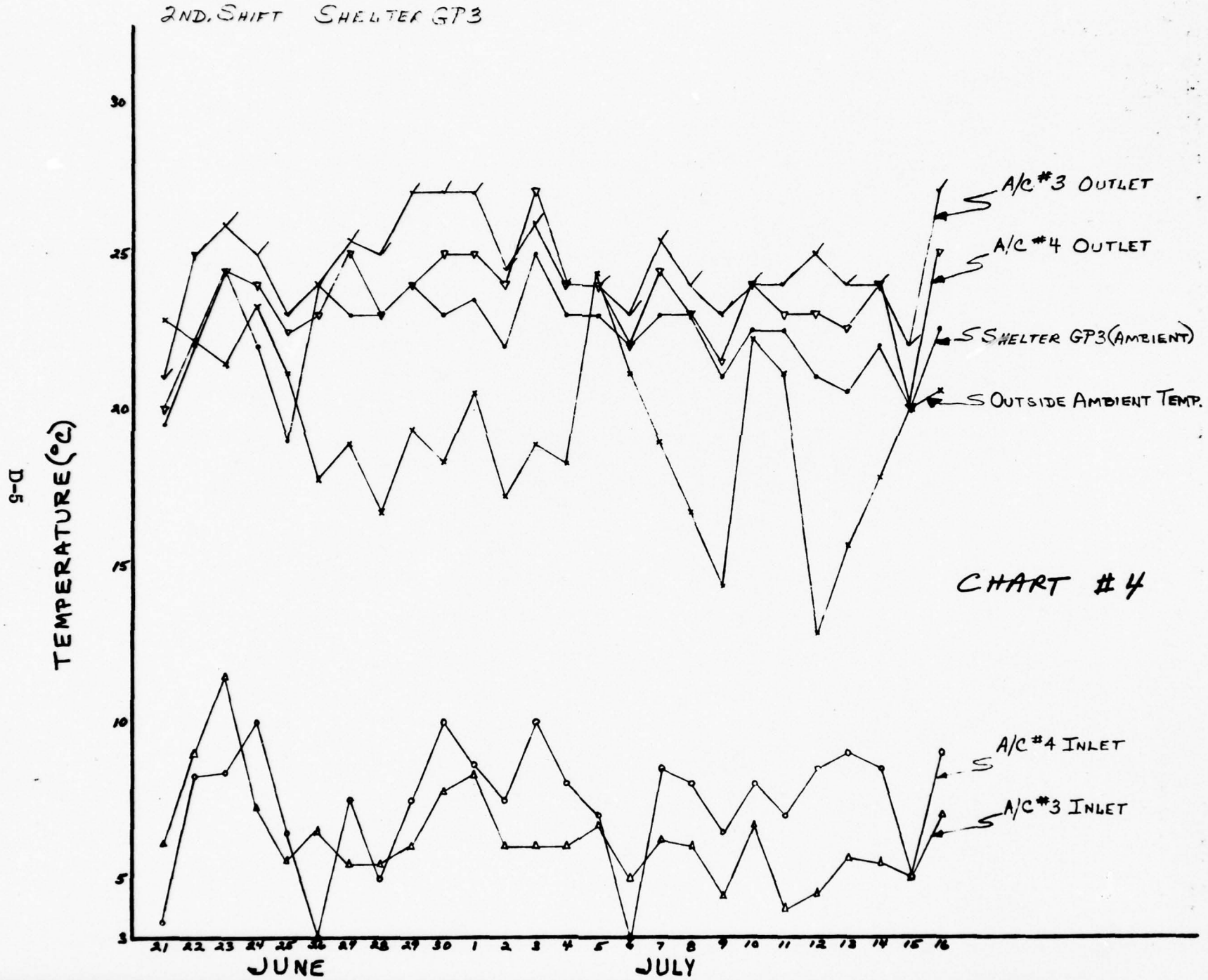
AIR CONDITIONER

△ - A/C #1 Inlet
✓ - A/C #1 Outlet
● - A/C #2 Inlet
▽ - A/C #2 Outlet


1ST. SHIFT SHELTER GP2
A/C #1 OUTLET
OUTSIDE AMBIENT TEMP.
A/C #2 OUTLET
SHELTER GP2 (AMBIENT)
A/C #1 INLET
A/C #2 INLET
TEMPERATURE (°C)
30
25
20
15
10
5
JUNE
JULY
CHART # 1


2ND. SHIFT SHELTER GP2
A/C #1 OUTLET
OUTSIDE AMBIENT TEMP.
SHELTER GP2(AMBIENT)
A/C #2 OUTLET
A/C #1 INLET
A/C #2 INLET
CHART # 2
TEMPERATURE (°C)
30
25
20
15
10
5
2
21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
JUNE
JULY


1ST. SHIFT SHELTER GP3
OUTSIDE AMBIENT TEMP
A/C #3 OUTLET
A/C #4 OUTLET
SHELTER GP3 (AMBIENT)
A/C #3 INLET
A/C #4 INLET
CHART #3
TEMPERATURE (°C)
30
25
20
15
10
5
22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17
JUNE
JULY


2ND. SHIFT SHELTER GP3
30
25
20
15
10
5
0
TEMPERATURE (°C)
A/C #3 OUTLET
A/C #4 OUTLET
SHELTER GP3 (AMBIENT)
OUTSIDE AMBIENT TEMP.
CHART #4
A/C #4 INLET
A/C #3 INLET
21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16
JUNE
JULY

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APPENDIX E

HUMIDITY AND BAROMETRIC PRESSURE SUMMARY

Day	Outside Ambient Temp (°F) Shift 1	Shift 2	Barometric Pressure Shift 1	Shift 2	Humidity (%) (RH) Shift 1	Shift 2
6/21	—	73	—	NOT RECORDED	—	60
6/22	78	72	30.14	29.58	76	74
6/23	82	69	29.65	NOT RECORDED	65	NOT RECORDED
6/24	86	74	29.47	29.34	62	84
6/25	76	70	NOT RECORDED	29.27	NOT RECORDED	96
6/26	76	64	29.49	29.52	50	90
6/27	76	66	29.50	29.51	66	74
6/28	79	62	29.43	NOT RECORDED	67	62
6/29	82	67	29.27	29.27	62	63
6/30	70	65	29.55	29.12	85	85
7/1	72	69	29.[illegible]	[illegible]	78	68
7/2	76	63	29.40	[illegible]	52	78
7/3	66	66	29.[illegible]	[illegible]	56	74
7/4	74	65	[illegible]	29.44	60	73
7/5	78	76	29.48	30.00	50	62

DAY	OUTSIDE AMBIENT TEMP (°F)		BAROMETRIC PRESSURE		HUMIDITY (%) (RH)	
	SHIFT 1	SHIFT 2	SHIFT 1	SHIFT 2	SHIFT 1	SHIFT 2
7/6	80	70	29.52	29.44	64	84
7/7	86	66	29.42	29.1"	83	92
7/8	[illegible]	[illegible]	29.[illegible]	29.11	61	89
7/9	60	58	29.[illegible]	29.54	70	83
7/10	[illegible]	[illegible]	[illegible]	29.[illegible]	[illegible]	[illegible]
7/11	82	70	29.14	29.95	63	85
7/12	66	55	28.15	29.[illegible]	94	95
7/13	60	60	29.[illegible]	29.62	[illegible]	[illegible]
7/14	64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7/15	70	68	29.54	29.23	63	79
7/16	68	64	29.[illegible]	29.[illegible]	87	82
7/17	61	—	29.[illegible]	—	72	—

APPENDIX F

ELAPSED TIME READING SUMMARY

TOTAL

ELAPSED TIME (TLR EQPT.)

EQUIPMENT		ETR START	ETR FINISH	Accumulated Operating Time (HRS)
Power Generator	#1	2217.5	2244.9	27.4
	#2	1986.1	2353.2	367.1
	#3	1211.6	1487.3	275.7
	#4	1837.0	2165.6	328.6
	#5	0281.3	0444.2	162.9
TPX 28		387.8	0934.4	546.6
Shelter GP2		6414.3	7003.6	589.3
Shelter GP3		6206.1	6796.6	590.5
Trailer GP1		5398.2	5981.4	583.2

APPENDIX G

MAINTENANCE ACTIONS

DATE	TIME	SEAL NO. OLD	SEAL NO. NEW	MAINTENANCE ACTIVITY	Initials
6/25/76	1708	7	[illegible]	See System Log P37, No change in Maintenance Config.	[illegible]
6/26/76	0020	12	[illegible]	See System Log P37, No change in Maintenance Config.	[illegible]
6/26/76	0020	13	[illegible]	See System Log P37, No change in Maintenance Config.	[illegible]
~~6/[illegible]~~	~~[illegible]~~				
7/4/76	0030		27	Replaced amplifier E X8 multiplier in Exciter (unit 4)	[illegible]
				See system Log P 86, 86A.	[illegible]
7/4/76	1624	29	32	Adjusted R24 on 6A8A2 - Sys. Log Pg 91	[illegible]
7/4/76	1624	14	28	Replaced A0419 Board in 2A7A1A2A32Y - Sys Log Pg 91	[illegible]
7/6/76	1418	8	33	Adjusted FR attenuator (ΔAz) from 5 to 2 - Sys log pg 107	[illegible]
7/7/76	1045	9	34	Disconnected load to K1X1 on Unit 5	[illegible]
7/[illegible]/76	[illegible]	[illegible]	[illegible]	Adjusted FR attenuator (ΔAz) from [illegible] Sys log Pg 152	[illegible]
7/12/76	1005	20/21	36/37	Replaced A0407 S/N 103 with S/N 21 - 3A8A14A3 - 32119 (pg 158 Log)	[illegible]
7/8/76	1329	N/A	N/A	Replaced 81B1 760095?P3 SN 50333 - fan shaft showed evidence of some corrosion	[illegible] for LCB
7/14/76	0830			Changed location of 3dB pad in Unit 4 See log page 175A	[illegible]
7/14/76	1730			Replaced 4N1A2A1 See system log p. 179 & 180	[illegible]
				7/17/76 Verified all seals intact 1030 PM	

G-2

APPENDIX H

MAINTENANCE TEAM TASKS

Maintenance Team Tasks

1. Sign-in/sign out - Maintenance team use daily log sheets. Sign-in upon reporting for shift.

2. Perform all tasks per daily schedule as detailed by "Reliability Test SOP's".

3. Complete System Status sheets. Daily Log sheet #2.
   a) 1200 Noon for Day shift time. This allows system to stabilize after morning shutdown.
   b) 2000 hours for Night shift logs will be maintained in "General Reliability Data" book.

4. Have visitors sign-in/out in Visitors Log book. Marines assigned, Ike King, Roger Lavine could use our daily logs.

5. Maintain Daily Logs - All data ~~must go~~ would be entered into daily logs chronologically - ~~do~~ not wait till end of shift to enter data. All PM messages, although time ~~is~~ was indicated on printout, ~~must~~ would be entered into logs as they occur. Therefore someone ~~must~~ would "baby sit" with radar control group while system ~~is~~ was operating.

6. At least once during shift, at beginning preferably date, time paper recordes (Radiate time recorder).

7. Corrective Maintenance Action - If a fault occurs take appropriate action as detailed by "Procedure in the event of a fault", contained in the "Reliability Test SOP's" book.

Before starting any repair make sure you contact DCASO representative; start with Roger Lavine. He will either give you the go-ahead to make necessary repairs or you will have to wait for him to show up. There is a listing of government reps. to contact in the "Reliability Data Log" book.

Make sure you sign out for all spares in the spares sign-in/out log mounted on spares rack.

MAINTENANCE TEAM TASKS (Continued)

7. a) In case you find you are not able to make repair to system or are at an impasse where to start, call H. Burris 652-6907. If you can not reach Howie contact J. Perry . Make sure you make an honest attempt before calling either of the above.

9. Refer to "Conditions Pertinent to Reliability test" contained in Reliability Log Book as well as the Reliability Demo test plan for additional information.

10. All references to three shifts now applies to our two shifts. (0800-2000; 2000 - 0800).

11. All maintenance activities involving repair of system due to a fault requires completion of MIDR Forms. Instructions and Forms are contained in the "Reliability Log Book".

    Also general description of maintenance actions pertinent to breaking of seals on equipment must be entered in the "Equipment Maintenance Log".

12. At the end of each shift, prepare a summary of events and actions taken.

The maintenance procedure followed in the event of failure was:

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APPENDIX J

STANDARD OPERATING PROCEDURES (SOP) DESCRIPTION

SOP No.	1	Power Off
	2	Power On
	3	Supplemental FL Tape
	4	Running FL Option
	5	Running Tactical "T" Tape
	6	System Performance Data Collection
	7	Postview/Preview Display Test
	8	Normalizer Test
	9	Set 1 Test
	10	MTI Test
	11	Control Exercising
	12	Normal Mode/Parameter Configuration
	13	Weather Mode
	14	Mounting Magnetic Tape
	15	Magnetic Tape Rewind and Dismount

SOP #1 POWER OFF

1. Press STOP (Master clear) MC, I/O CLR on UYK 7

2. [illegible]

3. Turn following circuit breakers off

   a. Group 1 — Az rotation
      Unit 5, +5V
      AC off

   b. Group 2 — AC #1, AC #2, Shel. Elec.

   c. Group 3 — " " " "

   d. Line voltage monitor frequency and voltage lag off

4. Shut down diesels (see diesel procedures)

SOP #2 POWER ON

1. Bring one diesel on line (see diesel schedule and procedures).

2. Turn following circuit breakers: ON

   Group 2 AC#1, AC #2, Shel. Elec.

   Group 3 " " " "

3. Parallel 2nd Generator with first. In event first generator main CB is tripped, shut down GP 2 and 3 Air Conditioning. Wait 5 minutes and repeat (2) and (3) above.

4. Turn remaining circuit breakers in order listed.

   Group 1 AC

   Unit 5 +5V PS _____

   Azimuth Rotation Manual

   Check power on/off on 1538 side, if off, turn on line voltage monitor freq. and voltage lag, On

5. Observe PS fault light on PMSD. If lit, not all PS's are on. Must be off before proceeding.

SOP #3 SUPPLEMENTAL FL TAPE

1. Turn on entire system. Array not rotating. (Be sure 1538 is on) (1 generator needed)

2. Put RTC switch on computer on INT.

3. Mount Magnetic Tape and step to desired load point

Load Point 0 Beginning of tape indicator

Load Point 1 Transmit Test

2 Receiver Test

3 Monopulse Test (Receivers off)

Not used (4 " " (Receivers on))

4. RF Inhibit of RHI console should be off (white)

5. Azimuth blanking should be off or tests will not function properly.

Load Point 1 Continue with step 6T for Transmit Test

2 Continue with step 6R for Receiver Test

3 Continue with step 6M for Monopulse Test

TRANSMIT TEST

6. T On Computer MC (to run test at f2)*

a) All JUMP and STOP switches down.

b) Depress STOP, MASTER CLEAR and IO CLEAR.

c) Put Bootstrap Auto Rec/Manual switch in MANUAL position (down).

7. T Depress START. Place Bootstrap Auto Rec/Manual switch in NEUTRAL position (centered).

8. T Magnetic Tape will load and the program will execute and print results for row transmit power on TTY.

9. T Prior to 54 rows of printout put STOP switch 5 up.

10. T Print will stop after 54 rows (only if 5 stop is up). Proceed with step 12T if it is desired to rerun at a different frequency. Otherwise the test is complete.

* 11. T To make initial run at other than f2 perform steps 6T and 7T with STOP switch 5 up, then continue with step 12. T.

12. T At 5 STOP (5 stop button will be lit)

a) Depress CM button in field of REGISTER SELECT buttons.

b) Set CM Address Select field to octal 100 by clearing, if necessary, and depressing button 6.

c) Select desired frequency by clearing the Central Processor Register and inserting the octal frequency number using buttons 0 -- 4.

e.g.	f#	octal	b4	b3	b2	b1	b0
	f_2	2	0	0	0	1	0
	f_7	7	0	0	1	1	1
	f_{10}	12	0	1	0	1	0
	f_{15}	17	0	1	1	1	1
	f_{20}	24	1	0	1	0	0

1 indicates button lit

0 indicates button not lit.

13. T Depress STOP switch 5. Depress START

14. T Program will execute and print results for row transmit power on TTY.

15. T Go to Step 9T.

Receiver Tests **

6.R On Computer MC (to run test at f_7)*

a) All JUMP and STOP switches down.

b) Depress STOP, MASTER CLEAR and IO CLEAR

c) Put Bootstrap Auto Rec/Manual switch in MANUAL position (down)

7.R Depress START, Place Bootstrap Auto Rec/Manual switch in NEUTRAL position (centered).

8.R Magnetic Tape will load and the program will execute and print results for row receivers on TTY. The program will stop after 54 row.

9.R To rerun the program reload by starting again at Step 6R. If tape unit is on or Step 1 if off.

** 10.R Running in this manner will provide sum receiver data in the 8th column. To obtain ΔA receiver data, which will be in the 10th column, rerun the program (see Step 9.R) after disconnecting the cable at J18 on the shelter Interconnection Panel. Reconnect when done.

Monopulse Test

6. M On Computer MC:

   a) All JUMP and STOP switches down

   b) Depress STOP, MASTER CLEAR and IO CLEAR

   c) Put Bootstrap Auto Rec/Manual switch in MANUAL position (down)

7. M Depress START. Place Bootstrap Auto Rec/Manual switch in NEUTRAL position (centered).

8. M Magnetic tape will load and the program will execute and print monopulse results on TTY.

9. M Put JUMP switch 2 up after printing starts. Additional printing will be inhibited.

10. M Put JUMP switch 2 down if additional output is desired.

SOP #4 RUNNING FL - FL OPTION

1. Turn on entire system and start array rotating. (Be sure 1538 is on:) (1 generator needed) (PS warning light should not be lit to indicate all PS's are on)

2. Put RTC switch on computer on EXT.

3. Mount Magnetic Tape.

4. CAUTION: Be sure RF inhibit button on the RHI console is off (white) and that azimuth blanking is off. (Switch up in upper right of unit 6) If not off FL will not function properly.

5. On computer MC.
   a) All JUMP and STOP switches DOWN
   b) Depress STOP, MASTER CLEAR and IO CLEAR
   c) Put Bootstrap Auto Rec Manual switch in MANUAL position (down)

6. Depress START switch. Place bootstrap auto Rec/Manual switch in NEUTRAL position (centered).

7. Magnetic tape will load and program will begin executing and print on the TTY. Tape may be rewound and dismounted at any time after this.

8. In response to "Set jump switch No. 1 up for Power Module Test Option Down for Fault Location function.
   Press start switch after making selection"

9. In response to "Fault Location Option define desired frequencies in bits 1 thru 20 of CMR 100.
Set Jump switch 3 up to terminate after 64 Fl cycles
Set Jump switch 2 up to force -Fl- into diagnastics."

a) Depress CM button in field of Register Select buttons.

b) Set CM Address Select field to Octal 100

c) Select desired frequencies by depressing numbered buttons in Central Processor Register corresponding to desired frequencies (e.g. depress buttons 2, 5 and 11 for F_2, F_5 and F_{11}).

d) Set Jump switch 3 up

e) Depress START

10. FL will run and terminate with either a fault message (e.g. FL123) * or FLSTOP after 64 cycles. (about 5 min.)

11. FL may be rerun by depressing START again! Return to Step 9.

12. If Power Module Option is desired after running FL, the tape must be reloaded.

* 13. * If a fault message occurs, repeat FL one or more times for verification because FL will occasasionally make a false report due to the pre-FL configuration of the system. If a FAULT OTHER THAN A ROW POWER SUPPLY IS NOTED, DUMP LISTS 1, 3, and 5.

SOP # 4A

RUNNING FL - POWER MODULE OPTION

1. Turn on entire system. (Be sure 1538 is on!) (1 generator is needed)

2. Put RTC switch on computer on INT

3. Mount Magnetic Tape

4. CAUTION: The RF Inhibit button on the RHI console must be on (Red) until the power module tester is connected. If not the generator will be overloaded The azimuth blanking jumper (unit 6.8 307-13 to grd) must be grounded or the power module option may not work properly.

5. On computer MC
   a) All JUMP and STOP switches down.
   b) Depress STOP, MASTER CLEAR and IO CLEAR
   c) Put Bootstrap Auto Rec/Manual switch in MANUAL position (down)

6. Depress START switch. Place Bootstrap Auto-Rec/Manual switch in NEUTRAL position (centered).

7. Magnetic tape will load and program will begin executing and print on the TTY. Tape may be rewound and dismounted at any time aft this.

8. In response to "Set jump switch No 1 up for Power Module Test Option, Down for Fault Location function.
   Press start switch after making selection"
   a) Set JUMP switch No 1 up.
   b) Depress START switch.

9. In response to "Power Module Option, define desire frequency in bits 1 thru 20 of CMR 100
Set JUMP switch 3 up to terminate"

   a) Depress CM button in field of Register Select buttons.

   b) Set CM Address Select field to octal 100 by clearing, if necessary, and depressing button 6.

   c) Select desired frequency (one only) by depressing a numbered button corresponding to the desired frequency (e.g. depress button 7 for f7).

   d) Depress START.

10. Program is now operating. When the Power Module Test box is connected on the array, turn the RHI Inhibit (on RHI console) off (white).

11. To terminate the Power Module Option, set JUMP switch 3 up. The option must be terminated or RF Inhibit turned on (Red) before removing the Power Module Test box or the generator will overload.

12. Upon termination the program will return to step 8 providing the FL/Power Module Option again.

SOP # 4B FL DUMP

If FL Dumping is required

1. Depress STOP, MASTER CLEAR, IO CLEAR

2. Deleted

3. Deleted

4. Deleted

5. Deleted

6. Depress START.

7. At 4 STOP. Select CM in Register Select field

8. Select 101_8 (bits 6 and 0) in CM Address Select field.

9. Select FL Dump Code in CPR

Desired Output	Code (octal)
RDB	1
SOB	2
AOB	3
List 1	13
List 3	14
List 5	15
FLTBLCTL	16

10. Depress START. Desired output will be typed on TTY. (4th word in FLTBLCTL contains number of FL cycles completed in octal and the 5th word contains the DS s equence number.)

11. After printout, another code number may be entered in CPR (i.e. Repeats steps 10 and 11).

TO RETURN TO FL

12. Reload tape. Return to SOP #4, step 3.

SOP #5 RUNNING "T"

1. Turn on entire system and start array rotating.
(Be sure 1538 is on !) (2 generators needed) (PS warning light should be off to indicate that all PS's are on).

2. Put RTC switch on computer on EXT.

3. Mount Magnetic Tape

4. Mount Paper Tape

5. CAUTION: - Be sure the RF Inhibit button on the RHI console is off (white) and that there is no azimuth blanking (SW upper Rt of unit 6). If blanked "T" may perform a bad transmit phase calibration.

6. On computer MC(maintenance console)
   a) All JUMP and STOP switches DOWN
   b) Depress STOP, master clear and IO clear
   c) Put bootstrap auto rec/manual switch in MANUAL position (down)

7. Depress START switch. Place bootstrap auto rec/manual switch in NEUTRAL (centered) position.

8. Magnetic tape will load and program will begin executing and print a question on the TTY. Tape may be rewound and dismounted at any time after this.

9. In response to "will input be on paper tape? Type Y or N". Type Y and a carriage return. (At this point az blanking must be inhibited and and the RF inhibit must be off).

10. In response to "Do you want a paper tape punched? Type Y or N" type N and a carriage return.

11. CAUTION: Transmit phase calibration has been completed and the system is ready to go on the air. Azimuth blanking must now be enabled (SW on upper Rt unit 6) so that we do not jam the FAA at Star Hill.

12;. Type RUN and a carriage return. If PM 3 occurs in first few scans, rerun by typing R and a carriage return.

SOP # 5A CHANGING FREQUENCIES IN "T"

1. Type G CR on TTY. (CR is carriage return)

2. System will go off the air and provide opportunity to change system parameters.

3. In response to: "Is configuration to be changed? Type Y or N"
   Type N CR

4. In response to: "Is there a change in options? Type Y or N"
   Type N CR

5. In response to: "Current system height is 470 feet to change this, type in a new value, otherwise type a carriage return
   Limits are -1000 to 1500"
   Type CR

6. In response to: "Current surface refractivit is 313 N-units to change this, type in a new value, otherwise type a carriage return
   Limits are 200 to 500".
   Type CR

7. In response to: "Current allowed frequencies are 2 3 5 7 8 (sample) are the allowed frequencies to be changed? Type Y or N"
   Type Y CR

8. In response to: "Limits are 1 to 20, type new frequencies to be enabled (xx,xx,...xx)"
   a) Type CR if no new frequencies are to be enabled
   (sample) b) Type 4 CR if one new frequency is to be enabled
   (sample) c) Type 4,9 CR if two new frequencies are to be enabled, etc.

9. In response to: "Type old frequencies to be disabled (xx,xx,...xx)"

a) Type CR if no old frequencies are to be disabled

(sample) b) Type 5 CR if one old frequency is to be disabled

(sample) c) Type 5,8 CR if two old frequencies are to be disabled, etc.

10. In response to: (using case b) above) "currently allowed frequencies are: AA BB DD EE FF are the allowed frequencies to be changed? Type Y or N"

a) Type N CR if you did not goof. Proceed to step 11.

b) Type Y CR if you goofed. Return to step 7.

11. In response to: (* CAUTION - See step 15 if new frequencies enabled) "Are there any special inputs? Type Y or N"
Type N CR

12. In response to: "Do you want a paper tape punched? Type Y or N"
Type Y CR .

13. The system will punch a new tape which will be the same as the old one except for the frequency changes. Remove from punch and mount in place of old one after marking it properly (see old tape). Save old tape.

14. In response to: "System is ready - Type "Run" to initiate execution"
Type RUN CR. You're back on the air!

15. CAUTION: If new frequencies have been enabled, azimuth blanking must be off (switch on upper right of unit 6, up) before step 11 is performed and must be on (switch down) before performing step 14.

SOP #5B

PM DUMP

1. Depress STOP, MASTER CLEAR, IO CLEAR

2. Depress START

3. At 4 STOP. Select CM in Register Select field.

4. Select 101_8 (bits 6 and 0) in CM Address Select field.

5. Select PM Dump code in CPR.

Desired Output	Code (Octal)
RDB	33
PM Commands	299
PM List 1	53
PM List 3	54
PM List 5	55
PMTBLCTL	57
PMCERRRT	60
PMDEBUG	61

6. Depress START. Desired output will be typed on TTY.

7. After printout, another code number may be entered in the CPR. (i.e. Repeat steps 5 and 6 as desired.)

TO RETURN TO "T"

8. Reload tape. Return to SOP #5 step 3.

SYSTEM PERFORMANCE DATA COLLECTION SOP #6

1. System Performance data shall be collected once each 12 hour shift. (0800-2000, 2000-0800).

2 The following four sets of data shall comprise the system performance data.

Data Type	TTY Request Code
Processor Response	D2
System Performance	D4
Computer Performance	D5
Row Performance	D6

3. Request the data using the TTY keyboard by depressing in order the following keys.

   D, FIGS, desired number (2, 4, 5 or 6), CAR RET

4. The TTY will type the requested data.

5. Write the time and date on the data and place it in the test log.

POSTVIEW/PREVIEW DISPLAY ALTERNATING SOP #7

1. Operate PPI A as the preview PPI from 0900 to 1230 daily and PPI B as the preview PPI for the balance of the time (1230 to 0900).

2. Observe both PPI's and the RHI.

3. At 0900 select PPI A and TAOC B on the RHI.

   or

   At 1230 select PPI B and TAOC A on the RHI.

4. Observe both PPI's and the RHI. There should be no observable differences in the scope conditions before and after the change.

5. Record observations, time and date in test log.

NORMALIZER TEST SOP #8

1. Disable Normalizer once per 12 hour shift for a 5 minute period. (See 2)

1.a Turn off MTI

2. Turn Normalizer off (white) on the preview * PPI (do not turn off normalizer on postview PPI).

3. Observe both PPI's. There should be an increase in false alarms on the preview scope relative to the postview scope, particularly in the presence of range extended weather. In the absence of weather, the 80-100 mile region should be observed as it is most sensitive to the normalizer.

4. Turn Normalizer on (green) after 5 minutes.

5. Observe PPI's for return to pre-test conditions.

6. Record observations, time and date in test log.

* DEFN: Preview - Scope data not going to TAOC.

SET 1 TEST SOP #9

1. Set 1 is to be disabled once per 12 hour shift for a 5 minute period (See 2).

2. Turn Set 1 off (white) on the postview PPI (the one selected for TAOC).

3. Observe both PPI's and the RHI. They should show an increased number of detections (false alarms) and an increased number of multiple declared target marks.

4. Turn Set 1 on (green) after 5 minutes.

5. Observe return to pre-test conditions.

6. Record observations, time and date in test log.

1. The MTI is to be disabled once per 12 hour shift for a 5 minute period (See 2)

2. Select 80 mi. sweep on both PPI's, observe PPI's.

3. Turn MTI off (white) for a 5 minute period.

4. Observe both PPI's. A slight increase in clutter or false alarms should be evident particularly in the 0-40 mi. range beginning with the next north pulse.

5. Turn MTI on (green) after 5 minutes.

6. Observe return to pretest conditions.

7. Select 320 mi. range sweep on both PPI's.

8. Record observations, time and date in test log.

CONTROL EXERCISING SOP #11

1. Exercise controls once per day between 0900 hours and 1600 hours. Exercise each of the controls listed below and observe correct operation.

2. Tag targets on both PPI's and look for digital readouts.

3. Put in GCI mode. Look for cursor. Tag targets with all four track balls and look for digital readouts.

4. Depress Tag Cursor Center on each PPI and note that cursor origin returns to PPI center.

5. Return to MTDS mode. Cursor should now become a target tag on both PPI's.

6. Depress PPI offset then PPI Center and observe that tag offsets and returns to PPI center. Both PPI's

7. Depress UNDEFRUITED switch on both PPI's and observe fruit on scope. Turn off and fruit goes away.

8. Move Video Threshold switch on each PPI to some valve other than zero. Observe increased video false alarms. Return switches to zero.

9. Turn Minimum Reported Range to a setting other than zero and observe the absence of DTM's within that range on both PPI's. Return switch to zero.

10. Exercise both the RHI Range Scale and RHI azimuth scale switches observing correct RHI display of target data. Turn on the RHI Sector Outline on the Preview PPI and observe the outline. Return the switches to 320 mi. and 360° and turn off the outline.

11. Select RHI scaling of 20 miles and 15°. Tag a target on the preview PPI. Tag the same target on the RHI. Depress the Height Validate switch and note the output on the TTY. Return RHI scaling to 320 miles and 360°.

12. Depress the RHI Tag Center switch and observe that the RHI tag returns to its normal location.

13. Turn on the Clutter Censor outline on both PPI's. Turn on one or more of the censor volumes and adjust Range, Azimuth and Elevation limits as desired. Observe PPI's to see the censor outlines and that no DTM's appear within the censored volume. Turn the censor volumes and the censor outlines off.

14. Vary each of the intensity or illumination controls on the RHI and on both PPI's observing that the functions correctly. Return to nominal setting.

15. Record observations, time and date in test log.

RELIABILITY TEST

NORMAL MODE/PARAMETER CONFIGURATION SOP #12

6/17/76

FUNCTION	NORMAL STATE
RHI Controls	
Weather Program	Off
Weather Sector (Auto/30/60/90/120/180	Auto
MTI (on/off	On
RF Inhibit (on/off)	On
6/12 RPM	6 RPM
3D/2D	3D
MTDS/GCI	MTDS
PPI A/B	A 0900 - 1230 2130 - 0100 B 1230 - 0900 0100 - 0430
RHI Character (RHI/Character)	RHI
Set 2	Not used
Set 3 (on/off)	Off - not used
RHI Range Scale (20/40/80/160/320)	320
RHI Azimuth Sector (5/15/30/360)	360°
Height Smoothing (0/25/50/75)	0
Minimum Reported Range (0/15/30/45/60/75)	0
TAOC A/B	B 0900 - 1230 2130 - 0100 A 1230 - 0900 0100 - 0430
Height Validate	As desired
Tag Center	As desired
Track Balls	As desired
PPI Controls	
Normalizer (on/off)	On
Set 1 (on/off)	On
Undefruit IFF (on/off)	Off
Declared Target (on/off)	On
RHI Sector Outline (on/off)	Off

MODE/PARAMETER CONFIGURATION (CONT'D)

FUNCTION	NORMAL STATE
Weather Sector Outline (on/off)	As desired
Clutter Censor Outline (on/off)	When required
TAOC Censor Outline (on/off)	Off
TAOC Radar Map (on/off)	Off
Video Calibrate	Not used
Sweep (20/40/80/160/240/320)	320
Video Threshold (o/-1/-2/-3/-4/-5/-6/-8)	0 db
Norm/Altn Video	Normal
Weather Azimuth Center	When Required
PPI Offset	When required
PPI Center	When desired
Tag Cursor Center	When desired
Censor Controls	
Clutter Censor Gate 1 (off/Rmin + ΔR) (Amin + ΔA) (Emin + ΔE)	Off
Clutter Censor Gate 2 (Off/Rmin + ΔR) (Amin + ΔA) (Emin + ΔE)	Off Off
Clutter Censor Gate 3 (Off/Rmin + ΔR) (Amin + ΔA) (Emin + ΔE)	Off
Initialization Inputs	On Paper Tape
IFF (on/off)	On
Tilt Sensor (on/off)	On
Temperature Sensor (on/off)	On
Depression Angle (0/.25/.5/.75/1.0)	0
Radar Height	470'
Surface Refractivity (250-500)	313

MODE/PARAMETER CONFIGURATION (CONT'D)

FUNCTION	NORMAL STATE
Height Preference (Radar/IFF)	Rad
Allowed Frequencies (any combination)	
Mono-Cal Update Interval (5-20)	5 min.
On-line Inputs	On Paper Tape
Surface Refractivity (250-500)	Not used
Weather Update Interval (5-20)	Not used
Height Validate Hard copy (on/off)	as required
Performance Output Requests	as required
Azimuth Calibration Requests	as required

RELIABILITY TESTING

UPA-60 CONFIGURATION

SWITCH	STATE
READ GATE/OFF	READ GATE
CONT/OFF/MOM	CONT
SECTOR/OFF/MOM	OFF
MULTI MODE SELECT (1, 2, 3, 4, C)	3 AND C
MODE SELECT	MULTI MODE
DECODE/OFF/CODE	DECODE
RADAR/OFF/MIX	RAD
I1P/OFF/X	OFF
STRETCH/OFF	OFF
BKT/OFF	BKT
SAL/OFF	OFF
+99K/OFF/-1K	OFF
MUTE	OFF
SECTOR RANGE	CCW

SCP # 13

WEATHER MODE

1. The weather mode is to be enabled in inclement weather.

2. Detect presence of weather by periodically turning off the normalizer on the preview scope. Weather will appear on the scope as a white area. If there is a significant amount of weather in the 0-100 region that has a range extent in excess of 5 miles, the weather mode should be enabled.

3. Select the Azimuthal sector width (Auto = 360°) on the RHI Sector Width Control.

4. Turn on the weather sector outline on the preview PPI. (The PPI selector on the RHI should be selecting the preview PPI).

5. If other than AUTO has been selected on the sector width switch, position the preview PPI target tag in the azimuthal center of the weather and depress the Weather Azimuth Center switch.

6. Depress the weather Program switch to turn the weather mode on (green).

7. Wait 3 scans and observe the preview PPI. The weather sector outline should appear in the correct place. There may be a decrease in the displayed weather within the weather sector.

8. Turn the normalizer on (green).

9. Record observations, time and date in test log.

10. When in weather mode periodically monitor weather so that the sector can be moved or the mode disabled as the weather conditions indicate.

SOP # 14 MOUNTING MAGNETIC TAPE

1. Turn CU on (tape control unit) using toggle switch on-top and towards rear of tape equipment.

2. Load tape and close door of MTT (magnetic tape transport)

3. Put Local/Remote switch in LOCAL on ROU (remote operating unit).

4. Turn MTT on using toggle switch on right of ROU.

5. Wait 3-5 seconds until vacumn sucks tape into columns.

6. Momentarily depress LOAD POINT button on ROU. (The tape will stop moving and button will light when at load point (about 1-5 seconds). If tape runs 10 seconds or more depress REWIND button on ROU) LOAD POINT button will light when tape is at load point. *

7. Put LOCAL/REMOTE switch on ROU in REMOTE.

8. Tape is now ready for loading into computer.

9. After loading - rewind tape and turn off MTT.

10. Dismount tape if desired. CU and MTT should be off when not in use.

* 11. If the supplemental FL tape is used depress the LOAD POINT button each time the tape stops at a load point until the desired LOAD POINT is reached. This tape will have two closely spaced load points at the beginning of the tape to identify the first load point location.

SOP # - 15 MAGNETIC TAPE REWIND AND DISMOUNT

1. Put LOCAL/REMOTE switch on ROU in LOCAL.

2. Depress REWIND button on ROU.

3. When rewound, the LOAD POINT button will light.

4. NOTE: If this is the desired load point for reloading a program into the computer, put the LOCAL/REMOTE switch in REMOTE.

5. If this is a multiple load point tape and it is desired to rewind through more than one load point:

   a) Put FORWARD/REVERSE switch in REVERSE.

   b) Depress REWIND every time the LOAD POINT button lights. Continue until desired load point is reached. (Two closely spaced load points identify the first load point on the tape).

6. Turn off MTT and CU.

7. Dismount Tape.

8. If MTT had been off in middle of a tape, perform first 6 steps in tape mounting SOP before rewinding.

APPENDIX K

PERFORMANCE MONITOR MESSAGES

PERFORMANCE MONITOR MESSAGE SUMMARY

PM MSG. CODE	TOTAL MSG.	PM MSG. CODE	TOTAL MSG.
000	19	103	2
1	4	104	1
2	3	109	2
3	29	111	35
4	0	117	4
8	6	139	3
9	112	142	4
10	391	143	19
11	44	146	1
12	1	147	9
18	1	148	1
19	4	150	2
20	5	151	1
22	3	152	2
23	9	154	4
27	1	155	1
30	6	156	2
58	1	158	1
59	7	164	443
61	350	172	2
62	5	173	3
85	4	174	2
86	20	175	6
87	4	176	8
89	15	177	1
93	5	178	167
94	7	179	2
95	7	180	4
96	2	181	9
97	4	182	6
100	6	183	2

1/2

PM MSG. CODE	TOTAL MSG.
184	3
186	4
187	12
188	1
189	5
190	1
191	4
194	16
195	2
197	1
202	1
207	8
208	8
209	7
210	4
213	9
214	10
215	7
216	6
249	12
250	13
257	549
258	2171
259	3
260	1
261	34
262	453
269	171
270	52
290	1
292	117

PM MSG. CODE	TOTAL MSG.
952	1
995	185
996	4
998	2

2/2

APPENDIX L

FAILURE ANALYSES

COMPONENT FAILURE ANALYSIS

This Appendix contains an analysis for failures occurring during the Reliability Demonstration Tests. The purpose of these analyses is to determine the criticality of the failures so as to uncover design weaknesses.

This appendix contains a summary for each failure, along with the failure data as reported during the Test. Additional data is referenced back to the daily log sheets.

FAILURE ANALYSIS NO. 1 MIDR No. 1

Date of Failure: 7-2-76

Part Name: Azimuth Drive Motor 1 Gear Box

Major Assembly: Ancillary Equipment

Serial No. 1

Hours of Operation: 727 (Approx. 227 into test)

Mode of Operation: Performance Monitor Check

Manufacturer of Failed Part: General Electric Co.

Failure Symptom:

While logging lapse time meter on array, detected different noise signature. Observed azimuth drive gear housing was loose. Notified Government Rep. to confirm. Found 4 of 6 mounting screws loose, remaining 2 snug but not tight. Support cams were not in contact. Secured support cams and re-tightened 6 screws. Rotated array under power. Gear housing secure but oscillatory droning noise occurred. Securing cams with loose housing caused backlash between drive pinion and bullgear to tighten up since adjustment was not made on highspot of gear runout.

Action Taken:

Consulted with F. Ferrara (MREDP System P. E.) on idea to float housing pin and rotate array by hand so pinion would seek best position at gear teeth interface. He concurred. This procedure was used since bullgear runout high spot warning was not at access hole - (Note will be added on drawing to align access hole with runout highspot). Rotation under power was resumed, noise signature was smooth. Note will be added to assembly drawing for safety wiring bolts. Safety wiring has been implemented on XN-1 at preship.

Down Time: - System down 2-3/4 hours for this problem. About 1 hour was used to perform the actual work once runout/backlash problem solution was decided.

Comment:

The system had approximately 500 hours of rotation at the beginning of the Reliability Test and 727 hours at the time the problem occurred. Since this problem had occurred in the past, the bolts should have been checked when the system grease and lubrication checks were made prior to the Reliability Test. An inspection at that time would have eliminated this problem. The addition of safety wire on the gearbox mounting b olts will prohibit future problems.

7-2-76

MIDR

TEST SPECIFICATION Reference Summary 1st shift 7-2-76

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -1

A. INSPECTION REPORT (7057) # N/A DATE ~~None~~

B. TEST TRAVEL TAG (6626) # N/A

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED
~~SPEC.~~ ___ ~~PAR.~~ ___ ~~RUN~~ ___ RELIABILITY DEMO LOG, SHEET 80

D. DESCRIBE SYMPTOMS OF FAULT NOISE LEVEL @ ARRAY CHANGED, INSPECTED DRIVE MOTOR/GEARBOX & OBSERVED THAT IT WAS LOOSE

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE X

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE NA

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE ___ BOARD PULLER ___
OFF SET PHILLIPS, PHILLIPS, 9/16" SOCKET, 3/8" DRIVE & 6" EXTENSION

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
OBSERVED CHANGE IN NORMAL NOISE SIGNATURE, MOTOR/GEARBOX MOUNTING MTG. SCREWS LOOSE

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1246

TIME RECORD 1ST MAINT. MAN	
NAME	BELTZ
COMPLETE	1531
IN	
OUT	
IN	
OUT	
IN	1246
OUT	1434
START	1245

TIME RECORD 2ND MAINT. MAN	
NAME	
COMPLETE	
IN	
OUT	
IN	
OUT	
IN	
OUT	
START	

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -1 (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)
Required consultation with F. Ferrara
FAILURE WAS FIXED BY RETIGHTENING 6 MOUNTING BOLTS - GEAR BOX WAS POSITIONED BY LETTING IT FLOAT (ACTUALLY SNUG) & ROTATE AWAY BY HAND ~~A~~ 6X *

TOTAL REPAIR TIME
MH 1.
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED
15 : 31

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC NA PAR. _____ RUN _____
LISTENED FOR ABNORMAL NOISES

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O NO
(YES) - ~~CABINET~~ ARRAY ____ FROM 12:45 TO 15:31 (TIMES)
CABINET ____ FROM : TO : (TIMES)

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME ____MH

X N/A

* THIS PROCEDURE WAS USED AFTER IT WAS REALIZED THAT THE HIGH POINT ON THE BULL GEAR WAS NOT ACCESSIBLE TO CHECK BACKLASH.

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 —/ (CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O NO

X FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

SCREWS LOOSENED UP @ GEARBOX MOUNT - NOT INCLUDED IN ~~MOUNT~~ MANUAL, TECH SPECS

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

X NO ADMINISTRATIVE TIME

TEST DIRECTOR L. E. Bach

G.E. R/M OBSERVER

CUSTOMER WITNESS [illegible] 7/30/76

T. H. Brown

AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

3 OF 7
AD
A056 284



FAILURE ANALYSIS NO. 2 MIDR No. 2

Date of Failure:	7-4-76
Part Name:	L. O. Amplifier
Drawing Number:	725016A0265
Major Assembly:	Exciter
Serial No.:	1
Hours of Operation:	268
Mode of Operation:	10 sec. mode
Manufacturer of Part:	General Electric Co.
Symptom of Failure:	Performance
Monitor Message:	PM213, 214, 215, 216

Failure Cause:

Thin film copper runs of the amplifier were found lifting, causing an open run.

Repair Action:

Replaced with spare unit.

Secondary Failures:

None. The X8 multiplier removed with this unit was found to check out within performance limits.

Action Taken:

Prior to the Reliability test it was known that this design was inadequate. Redesign was underway.

Failure Category:

Non-relevant based on definition 1 for non-relevant failures.

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -2

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED TEST LOG SHEET
SPEC ____ PAR. ____ RUN____ PAGE 86 & 86A

D. DESCRIBE SYMPTOMS OF FAULT
PM messages indicated that four of six active frequencies were bad.

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE____
PM 213, 214, 215, 216

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE X

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE ___ BOARD PULLER____
H.P. 436A Power Meter & 8484A Power Sensor, Small common screw Driver, 7/16" open Tight, 5/16" inch, Phillips screw Driver

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
See accompanying sheet

0058

TIME AT WHICH DIAGNOSIS WAS COMPLETED ~~0059~~

TIME RECORD 1ST MAINT. MAN
NAME J PERRY
COMPLETE 0137
IN
OUT
IN
OUT
IN 0058
OUT
START ~~0058~~ 0059

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

4N1A1A1 (7258 16A33 1961) and
4N1A2A1 (7258 16A0265) were
replaced with spare units.

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

0137 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC _____ PAR. _____ RUN _____
The 4N1A2A1 output was checked with a power meter to exceed +28 dBm for f1 through f7.

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O NO
YES · CABINET 1A4 FROM 00:29 TO 01:37 (TIMES)
CABINET ___ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

(O) REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME ____MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O NO

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

J. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

4. after determining from FM messages that four of the six active frequencies were bad, the array was stopped and Unit 4 was opened. The output (J2) of the X8 Multiplier 4N1A1A1 (7250164331961 SN1) was checked versus frequency. (a loop D-14B test tape was used to change the frequency). at the lower frequencies, the multiplier output was 4 to 5 dB lower than at f4 through f7. Next the output (J2) of the L.O. Amplifier 4N1A2A1 (7250164026S) was checked versus frequency. Its output was zero at f1, f2, f3, & f6. Since the X8 multiplier's output varied as a function of frequency, it was decided to replace it as well as the L.O. Amplifier with spare units

FAILURE ANALYSIS NO. 3 MIDR No. 3

Date of Failure:	7-6-76
Part Name:	Azimuth Receiver
Sub-part:	Attenuator
Location:	3N1A3AT3
Major Assembly:	Receiver Unit 3
Serial No.	1
Hours of Operation:	308
Mode of Operation:	10 second mode, normal tactical operation
Manufacturer of Part:	General Electric Co.
Symptom of Failure:	Performance Monitor message PM 178 - Azimuth Final Receiver Fault

Failure Cause:

Low Azimuth Amplitude

Repair Action:

Removed 3 db of attenuation from final azimuth receiver.

Secondary failures:

None

Action taken:

See repair action

Failure Category:

Non-Relevant Acceptance test plan allowed for minor adjustments as long as they were not permitted to be excessive. This adjustment made twice during the test.

APPENDIX 4.3.A

MIDR

TEST SPECIFICATION

7/15

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -3

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED
SPEC.____ PAR.____ RUN____ Rel Demo Test Log sheet # 107

D. DESCRIBE SYMPTOMS OF FAULT PM 178-
Azimuth Final Revr Fault

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE____
Antenna - Elec — Degraded
Sensitivity - Degraded

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE X

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE__ BOARD PULLER____
7/16 wrench to remove unit 3 locker cover.

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
Disabled frequencies to verify that it wasn't an excita problem - Took PM dumps to determine exact amplitude of Az signal - amplitude 3dB low

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1415

TIME RECORD 1ST MAINT. MAN
NAME RA Joseph
COMPLETE 1425
IN
OUT
IN
OUT
IN
OUT
START 1415

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 ~ 3 (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

3A1A3AT3 attenuator in ΔAz
Final Recv adjusted from a setting
of 5 to a setting of 2 (removed
3 dB)

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED
14:25

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC _____ PAR. _____ RUN _____
Recon PM - no PM 178 - took
PM dump - Az Amplitude OK

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O (NO)
YES - CABINET ____ FROM __:__ TO __:__ (TIMES)
CABINET ____ FROM __:__ TO __:__ (TIMES)

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME ____MH

(O) N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O (NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

FAILURE ANALYSIS NO. 4 MIDR No. 4

Date of Failure:	6-26-76
Part Name:	Circuit Breaker
Major Assembly:	Signal Processor Unit 6
Serial No.	1
Hours of Operation:	91
Mode of Operation:	10 second mode, normal tactical operation
Symptom of Failure:	Circuit breaker tripped Performance Monitor message, PM 4, heard arcing.

Failure Cause:

Unknown, no evidence of arcing found.

Action taken:

Reset circuit breaker

Failure Category:

Non-relevant, - this problem never occurred again. Only logical conclusion is that a possible transient condition from diesel generators resulted in tripping circuit breaker. Therefore, non-relevant according to GFE malfunction or abnormal operation.

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 — 4 6/26/76

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL Remo Log Sheet 37 6/26/76
SPEC.____ PAR.____ RUN____

D. DESCRIBE SYMPTOMS OF FAULT Power supply circuit breakers tripped on Mod 6 Some evidence of arc in units when breaker reset.

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE____
PM 4 TIME 2333

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE ✓

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE ✓ BOARD PULLER____

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
opened cabinet, inspected found no evidence of arcing, reset breaker and operated ok.

TIME AT WHICH DIAGNOSIS WAS COMPLETED ____

TIME RECORD 1ST MAINT. MAN
NAME R. Joseph
COMPLETE 2045
IN
OUT
IN
OUT
IN
OUT
START 2333

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

No repair

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

System back on at 0045

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC_____ PAR._____ RUN_____

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O NO

YES - CABINET _____ FROM__:__TO__:__(TIMES)

CABINET _____ FROM__:__TO__:__(TIMES)

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME _____MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O NO

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

FAILURE ANALYSIS NO. 5 MIDR No. 5

Date of Failure:	6-24-76
Part Name:	Exciter
Serial No.	1
Hours of Operation:	48
Symptom of Failure:	PM Messages 100, 207, 209, 210, 93

Failure Cause:

Unknown. Suspect bad solder connections on semi-rigid cable. Cable was on N1A3 assembly.

Action taken:

Resoldered cable connections.

Failure Category:

Non-relevant, not only did problem disappear when opening unit 4, but it is a recognized fact that maintenance was required on the Exciter prior to testing. This non-relevant failure classified as type 5 according to non-relevant failure definition.

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -5

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL LOG. PG 12 (4/23/76)

SPEC.____ PAR.____ RUN____

D. DESCRIBE SYMPTOMS OF FAULT PM MSG'S TARGETS OK ON PPI

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE____
PM MSG'S 100, 207, 208, 209, 210, 93

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE____

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE____ BOARD PULLER____
HP 436 A Power Meter & 8484A Sensor
~~Small~~ Tools (Screwdriver of Assorted)

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT.
(I.E., FLOW OF TROUBLESHOOTING DECISIONS)

(1223) (1) RAN FL, SAW NO BOARD FAIL 2-7
(1300) (2) USED MOD SA of MEASURED UNIT & TO OUTPUT (OK)
(1320 - 1330) (3) RAN SUPPLEMENTAL FL ON TX'S & RCVR'S OK BUT TEST PATH THROUGH MOD D DOWN 9 db.
(1408 - 1745) (4) BROKE SEAL ON UNIT 4 and through test the equipment for trouble components

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1830

TIME RECORD 1ST MAINT. MAN
NAME R. J. [illegible]
COMPLETE 330
IN
OUT
IN
OUT
IN
OUT
START ~~1230~~ 1223

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Possible cause of failure was two bad solder connections on W1085 semi rigid cable, cable was resoldered. cable was on W1 of N143 assembly.

TOTAL REPAIR TIME

MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1830 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC_____ PAR._____ RUN_____

FL of FL SUPPLEMENT

K. WAS IT NECESSARY ~~TO TURN~~ POWER OFF TO PERFORM MAINTENANCE? O (NO)

YES - CABINET ____ FROM __:__ TO __:__ (TIMES)

CABINET ____ FROM __:__ TO __:__ (TIMES)

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME ____MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O NO unknown

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____ 30 [illegible]

FAILURE ANALYSIS NO. 6 MIDR No. 6

Date of Failure:	7-4-76
Part Name:	Amplifier, AMM0008A PWB
Part Designation:	Unit 6, 6A8A2
Major Assembly:	PreProcessor, Unit 6
Mode of Operation:	10 second mode, normal tactical operation.
Symptom of Failure:	Performance Monitoring message PM 143.

Failure Cause:

Short Range Linear FM signal improperly set.

Action Taken:

Adjusted R42 on J8 of board to 10 millivolts.

Failure Category:

Non-relevant. This adjustment to the Set 1 channel. Set 1 redundant channel and failure allowable based on tolerable failure definitions. This adjustment made only once during the reliability test. This fault associated with Failure Analysis #7. Reference pages 90, 91 and 91A of the daily logs.

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -6

A. INSPECTION REPORT (7057) #____ DATE 7/4/76

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED
SPEC.____ PAR.____ RUN____ REL. DEMO LOG P. 90 & 91

D. DESCRIBE SYMPTOMS OF FAULT
PM 143 Message

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE____
PM 143, PM 995, PM 147
SIGNAL PROCESSOR & SENSITIVITY LIGHTS RED

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE X
N/A

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE____ BOARD PULLER____
TEKTRONIX 7904 OSCILLOSCOPE
TOOL FOR ADJUSTING SMALL POTENTIOMETER

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
Cont

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1600

TIME RECORD 1ST MAINT. MAN
NAME J.L. FERRY
COMPLETE 1624
IN
OUT
IN
OUT
IN
OUT
START 1600

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

H.

1. NOTED PM 143 & 147 Messages & Red Lights on Signal Processor & Sensitivity positions
2. D2 Readout Indicated SR-LFM Signal below threshold value of 47.
3. Loaded FL Tape & noted FL Flag 1256. This flag indicates that the Q input of the SET 1 9 bit A/D Converter was outside the specified value
4. Broke seal on Unit 6 & observed D.C. level of SET 1 9-bit A/D Converter at 6A8A2 J8 with on Oscilloscope. Noted it to be 50 mv (32 mv is maximum allowable) & adjusted R47 on 6A8A2 for a D.C. level of less than 10 mv.
5. Ran FL program again & noted that the FL flag 1256 was gone.

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Adjusted D.C. level on 6A8A2 J8 to less than 10 mv with R42

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1624 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC _____ PAR. _____ RUN _____

Ran FL program & noted absence of Flag 1256

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O (NO)

YES - CABINET _____ FROM : TO : (TIMES)

CABINET _____ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME _____ MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? 0 (NO)

0 FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

0 FAILURE OF EXTERNAL TEST EQUIPMENT

0 FACILITY FAILURE

0 RFI WHERE RFI IS UNCONTROLLED

0 ERROR IN TEST SPECIFICATION

0 ERROR IN TECHNICAL MANUAL

0 DRAWING ERROR WHICH AFFECTED -

- 0 MAINTENANCE
- 0 INSTALLATION
- 0 OPERATION

0 ACCIDENT OR MISTAKE DURING -

- 0 MAINTENANCE
- 0 INSTALLATION
- 0 OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

0 NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

FAILURE ANALYSIS NO. 7 MIDR No. 7

Date of Failure:	7-4-76
Part Name:	Shift Register, PWB
Part Designation:	Unit 7, 7A1A2X324
Major Assembly:	Digital Processor, Unit 7
Mode of Operation:	10 second mode, normal tactical operation.
Failure Symptom:	While diagnosing Performance Monitoring messages PM 143, See F. A. #6, uncovered fault location message FL235.

Cause of Failure:

Integrated Circuit on digital board (725016A0419) S/N45 was temperature sensitive.

Action Taken:

Checked PWB in board best, board checked out good. Then applied heat to the board, approximately 80° C and board recorded failure. These components are rated at -54° C to +125° C. Since most testing had previously been made with the cabinet doors open prior to the reliability test, it is possible that the board was initially bad.

Failure Category:

Non-relevant. This board is located in one of the four redundant MTI channels.

MIDR

TEST SPECIFICATION 7/4/76

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -7

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL DEMO

SPEC.____ PAR.____ RUN____ LOG P. 90 & 91

D. DESCRIBE SYMPTOMS OF FAULT

FL 235 Message

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?

0 NONE X

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.

0 NONE X

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?

0 NONE____ BOARD PULLER For Type I Digital Board

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)

1. Noted FL 235 Message

2. Obtained notebook that indicates the boards contained in each Fault Area

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1830

TIME RECORD 1ST MAINT. MAN
NAME J.L. FERRY
COMPLETE 1845
IN
OUT
IN
OUT
IN
OUT
START 1830

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Removed faint board located in Fault Area 235, i.e. A0419 in 2A7.7/A2 A324 & replaced with spare A0419 board.

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1845 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)

SPEC _____ PAR. _____ RUN _____

Ran FL program again

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O (NO)

YES - CABINET _____ FROM : TO : (TIMES)

CABINET _____ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

(O) REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME _____MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O (NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

- O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR _____ G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

FAILURE ANALYSIS NO. 8 MIDR No. 8

Date of Failure:	7-4-76
Part Name:	Circuit Breaker
Major Assembly:	Unit 5, Power Supply/Logic Unit
Location:	5CB5
Mode of Operation:	During maintenance action. Removing Row Power Supplies off rows 12 and 26.
Failure Symptom:	Row blower fans would not turn on.

1. Turned CB5 (array fans) in Unit 5 on to turn on array fans. None of the fans turned on.

2. Noted that relay K1 was being energized which would not allow power to array fans.

3. Opened lower array enclosure (1A1A1) and determined with ohmmeter that the thermostat that will turn array fans off if the temperature is too cold was open, i.e. this would not energize relay K1.

4. Decided that the test cable that goes from 1A1A1 to the power module test box must be shorted and such that the K1 relay would be energized all the time.

Action Taken:

Removed wire that was connected to 1A5K1 - X1

Failure Category:

Non-relevant. During this test the blower fans probably would not have caused serious problems. In fact, row 19, 20 and 5, 6 blower fans were out for the complete test with no deleterious effect. The cable was known to be marginal at the beginning of the test due to a being inadvertently damaged during the last power module check prior to the reliability test.

MIDR

TEST SPECIFICATION 7-7-76

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -8

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL PEMO LOG P113
SPEC.____ PAR.____ RUN____

D. DESCRIBE SYMPTOMS OF FAULT
ARRAY FANS WOULD ~~[illegible]~~ NOT TURN ON

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE X

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE X

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE____ BOARD PULLER____
7/16" SPIN TIGHT, PHILLIPS HEAD SCREWDRIVER
TRIPLETT MULTI METER

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT.
(I.E., FLOW OF TROUBLESHOOTING DECISIONS)
(Cont)

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1030

TIME RECORD 1ST MAINT. MAN
NAME JL PERRY
COMPLETE 1100
IN
OUT
IN
OUT
IN
OUT
START 1030

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

H.

1. Turned CB5 (Array Fans) in Unit 5 on to turn on array fans. None of the fans turned on.

2. Noted that relay K1 was being energized which would not allow power to array fans.

3. Opened lower array enclosure (1141) & determined with ohmmeter that the thermostat that will turn array fans off if the temperature in the cell was open, i.e. it would not energize relay K1.

4. Decided that the bad cable that goes from 1141 to the power module that had to be shorted & made sure the K1 relay would be energized all the time.

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Removed wire that was connected to 145 K1-X1

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1100 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)

SPEC _____ PAR. _____ RUN _____

NONE

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O NO

YES - CABINET 145 FROM 10:52 TO 11:00 (TIMES)

CABINET _____ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD B/R TIME _____MH

(O) N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O (NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

TEST DIRECTOR J. M. Sims G.E. R/M OBSERVER

CUSTOMER WITNESS

FAILURE ANALYSIS NO. 9 MIDR No. 9

Date of Failure: 7-7-76

Part Name: Blower Fan

Part Drawing No.: 7620978P3

Manufacturer: Rotron Mfg. Co.

Major Assembly: TAOC Junction Box, Unit 11B1

Mode of Operation: 10 second mode, Normal Tactical Operation

Failure Symptom:

When enabling TAOC operation noted cooling fan in cabinet non-operational.

Action Taken:

Replaced fan. Noted no secondary failures as a result of this fan binding up. Corrosion was noted on shaft. Bearing had bound up. This unit had been opened during the previous winter, where snow was allowed to accumulate. This would never happen in normal operation when the unit would be buttoned up.

Failure Category:

Non-relevant. Based on definition #5 for non-relevant failure.

APPENDIX 4.3.A

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 9- 7-8-76

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #_____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED Post Demo Log
SPEC.____ PAR.____ RUN_____ SHEET # 120

D. DESCRIBE SYMPTOMS OF FAULT Blower
would not operate

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE ✓

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE ✓

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE_____ BOARD PULLER_____
Phillips screwdriver for #6 screw & small straight bit screwdriver

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT.
(I.E., FLOW OF TROUBLESHOOTING DECISIONS)
Looked at fan, it growled when power was applied but would not turn

TIME AT WHICH DIAGNOSIS WAS COMPLETED within one minute after it was noticed

TIME RECORD 1ST MAINT. MAN
NAME Perry
COMPLETE 1329
IN
OUT
IN
OUT
IN
OUT
START 1155

TIME RECORD 2ND MAINT. MAN
NAME Bentz
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 9 (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

REPLACED FAN 11B1
GE DWG NO 7660978-3

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

:

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC_____ PAR._____ RUN_____
APPLIED POWER & FAN TURNED

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? 0 (NO)

YES - CABINET ____ FROM__:__ TO__:__ (TIMES)
CABINET ____ FROM__:__ TO__:__ (TIMES)

L. SUBASSEMBLY OR PART WAS:

0 REPLACED FROM SPARES YES

0 BENCH REPAIRED SEPARATE RECORD B/R TIME ____MH

0 N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 9 (CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O NO

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

X FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

UNIT II HAS BEEN LEFT OPEN IN AN UNPROTECTED ~~SITE~~ BUILDING, ALLOWING RAIN & SNOW DURING FALL (WINTER, SPRING). UNIT II IS NORMALLY AN ENVIRONMENTALLY SEALED UNIT - FAN SHAFT APPEARS RUSTY AROUND BEARING INTERFACE

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

TEST DIRECTOR W. A. Burns G.E. R/M OBSERVER

CUSTOMER WITNESS

FAILURE ANALYSIS NO. 10 MIDR No. 10

Failure Date:	7-12-76
Part Name:	Logic Board 725016A0407
Major Assembly:	Unit 8, Display console
Manufacturer:	General Electric Co.
Location:	8A14A3 x321 S/N 103
Operation Mode:	5 second mode; normal tactical operation.

Failure Symptom:

Computer program did not go into the 5 sec. mode (12 RPM mode) template.

Action Taken:

Replaced PWB

Failure Category:

Non-relevant. This board was faulty at the start of the Reliability test. It had showed up earlier during flight tests.

MIDR

TEST SPECIFICATION

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 10 7/12/76

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #_____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL DEMO Loc.
SPEC ____ PAR. ____ RUN ____ SH #158

D. DESCRIBE SYMPTOMS OF FAULT 12 RPM MODE WOULD NOT WORK PROPERLY. COMPUTER PROGRAM DID NOT GO INTO THE 5 SEC TEMPLATE.

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE ✓

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE ✓

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE ____ BOARD PULLER YES
464 TEK SCOPE
1" FLAT BLADE SCREWDRIVER

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
FIND 12 RPM SWITCH SIGNAL INPUT TO DC DC
OBSERVED NO PULL UP OF SIGNAL. PULLED
BOARDS, R WHERE SIGNAL WAS PULLED, UNTIL PULL UP OCCURRED.
TIME AT WHICH DIAGNOSIS WAS COMPLETED WITHIN 5 MINS
FROM START OF ABOVE PROCEDURE.

TIME RECORD 1ST MAINT. MAN
NAME GORDON T.
COMPLETE 1014
IN
OUT
IN
OUT
IN
OUT
START 1005

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 10 (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

REPLACED DEFECTIVE AU-107 BOARD IN SLOT 321

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1012 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC _____ PAR. _____ RUN _____

A DSM DUMP WAS PERFORMED TO VERIFY SETTING OF PROPER BIT IN WORD 16 OF DISPLAY SATTE MESSAGE

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? O (NO)

YES - CABINET ___ FROM : TO : (TIMES)

CABINET ___ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

O REPLACED FROM SPARES

O BENCH REPAIRED SEPARATE RECORD
B/R TIME ___ MH

O N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 10 (CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O (NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

TEST DIRECTOR X Ronald J. Joseph G.E. R/M OBSERVER

CUSTOMER WITNESS

FAILURE ANALYSIS NO. 11 MIDR No. 11

Failure Date:	7-14-76
Part Name:	Exciter
Major Assembly:	Exciter
Operational Mode:	System one hour shutdown

Failure Symptom:

None

Action Taken:

Action was taken to increase power output versus frequency. Moved 3 db pad from output of 4N1A1HY1 and 4N1A1FL1.

Comment:

This was not a fault/failure but just a continuing effort to maintain Exciter performance until total fix could be implemented.

MIDR

TEST SPECIFICATION

7/14/76

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -- //

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED REL DEMO P. 175A

SPEC.____ PAR.____ RUN____

D. DESCRIBE SYMPTOMS OF FAULT

NO FAULT, THE CHANGE WAS MADE TO TRY TO INCREASE 4N1A1A1 OUTPUT VERSUS FREQUENCY

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?

0 NONE X

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.

0 NONE X

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?

0 NONE____ BOARD PULLER____

H.P. 436A Power Meter & 8484A Power Sensor ~~small Common screwdriver, 7/16" open Tight~~ 5/16" wrench, ~~Pliers~~

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)

Power Measurements versus frequency were taken at 4N1A1 J3 for both original & modified configuration.

TIME AT WHICH DIAGNOSIS WAS COMPLETED 0830

TIME RECORD 1ST MAINT. MAN
NAME [illegible]
COMPLETE 0900
IN
OUT
IN
OUT
IN
OUT
START 0830

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Moved 3dB pad from output of 4N1A1 HY1 location to position between 4N1A1A1 and 4N1A1 FL1

TOTAL REPAIR TIME

MH

OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

0900 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)

SPEC N/A PAR. _____ RUN _____

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? 0 (NO)

YES - CABINET _____ FROM : TO : (TIMES)

CABINET _____ FROM : TO : (TIMES)

L. SUBASSEMBLY OR PART WAS:

0 REPLACED FROM SPARES

0 BENCH REPAIRED SEPARATE RECORD
B/R TIME _____MH

(0 N/A)

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? (O NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR W.M. Burns G.E. R/M OBSERVER _____

CUSTOMER WITNESS [illegible]

FAILURE ANALYSIS NO. 12 MIDR No. 12

Failure Data:	7-14-76
Part Name:	L. O. Amplifier, 725016A0265
Major Assembly:	Unit 4, Exciter
Location:	4N1A2A1
Manufacturer:	General Electric Co.
Operational Mode:	10 second mode, normal tactical operation.

Failure Symptom:

Excess false alarms noted on PPI for f_2 through f_5.

Action Taken:

1. Turned off all frequency except f_7 and PPI appeared normal.
2. Turned on f_4 through f_7 and still too many false alarms on PPI
3. Loaded E-5 program and measured 4N1A2J2 output versus frequency. Noted output below +27 db for f_1 through f_8.
4. Replaced 4N1A2A1 Amplifier

Failure Category:

Non-relevant. Problem existing at the time reliability test began.

APPENDIX 4.3.A

MIDR

TEST SPECIFICATION 7/14/76

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 -12

A. INSPECTION REPORT (7057) #____ DATE____

B. TEST TRAVEL TAG (6626) #____

C. IDENTIFY THE PERFORMANCE DATA SHEET ON WHICH THE FAULT WAS RECORDED
SPEC.____ PAR.____ RUN____ REL. DEMO LOG. P 1799 150

D. DESCRIBE SYMPTOMS OF FAULT
Excess false alarms noted on PPI for 57 thru ±5

E. WHICH PM LIGHTS OR OTHER FAULT INDICATORS WERE ACTUATED WHEN THIS INCIDENT OCCURRED?
0 NONE X

F. LIST TECHNICAL MANUAL PAGE NUMBERS USED.
0 NONE____
N/A

G. WHICH TEST EQUIPMENT AND HAND TOOLS WERE USED?
0 NONE____ BOARD PULLER____
H.P. 436A Power Meter & 8454A Power Sensor small common screw Driver, 7/16" open Tight 5/16" wrench, Phillips screw Driver, soldering iron long nose pliers, solder

H. LIST SEQUENCE OF STEPS TAKEN TO DIAGNOSE FAULT. (I.E., FLOW OF TROUBLESHOOTING DECISIONS)
1. Noted Excess False alarms on PPI
2. Turned off all freq. except 57 & PPI appeared normal
3. Turned on 56 through 57 and still too many false alarms on PPI
(Cont)

TIME AT WHICH DIAGNOSIS WAS COMPLETED 1755

TIME RECORD 1ST MAINT. MAN
NAME Jeffery
COMPLETE 1855
IN
OUT
IN
OUT
IN
OUT
START 1755

TIME RECORD 2ND MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

H.

4. Loaded E-5 Program & measured 4N142J2 output versus frequency. Noted output below +27 dB for f1 through f8.

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2 _____ (CONTINUED)

I. HOW WAS FAILURE FIXED? (INCLUDING SUBASSEMBLY REFERENCE NUMBER)

Replaced 4 N142A1 amplifiers

TOTAL REPAIR TIME
MH
OFFICE USE ONLY

TIME AT WHICH REPAIR/REPLACEMENT WAS COMPLETED

1855 :

J. WHICH CHECKOUT WAS PERFORMED TO ASSURE THAT THE ABNORMALITY HAD BEEN CORRECTED (CHECKOUT AND ALIGNMENT PROCEDURE-SECTION USED)
SPEC _____ PAR. _____ RUN _____

Measured 4N142J2 Output versus frequency. all outputs exceeded +27 dBm

TIME RECORD 3RD MAINT. MAN
NAME
COMPLETE
IN
OUT
IN
OUT
IN
OUT
START

K. WAS IT NECESSARY TO TURN POWER OFF TO PERFORM MAINTENANCE? (0) NO

0 - CABINET ____ FROM __:__ TO __:__ (TIMES)

CABINET ____ FROM __:__ TO __:__ (TIMES)

L. SUBASSEMBLY OR PART WAS:

(0) REPLACED FROM SPARES

0 BENCH REPAIRED SEPARATE RECORD
B/R TIME ____ MH

0 N/A

AN/TPS-59 MAINTENANCE INCIDENT DATA RECORD M2_____(CONTINUED)

M. WAS ABNORMALITY CAUSED BY ANY OF THE FOLLOWING? O (NO)

O FAILURE OF ANOTHER PART WHICH DIRECTLY CAUSED THIS FAILURE (DEPENDENT FAILURE)

O FAILURE OF EXTERNAL TEST EQUIPMENT

O FACILITY FAILURE

O RFI WHERE RFI IS UNCONTROLLED

O ERROR IN TEST SPECIFICATION

O ERROR IN TECHNICAL MANUAL

O DRAWING ERROR WHICH AFFECTED -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

O ACCIDENT OR MISTAKE DURING -

- O MAINTENANCE
- O INSTALLATION
- O OPERATION

N. GIVE FULL EXPLANATION OF ANY ITEMS CHECKED IN M (INCLUDE REFERENCE TO MANUAL SHEET NUMBERS, SPECIFIC TEST EQUIPMENT, ETC.)

_____

_____

_____

_____

O. EXPLAIN ADMINISTRATIVE TIME FOR THIS INCIDENT. (ALSO OTHER COMMENTS)

O NO ADMINISTRATIVE TIME

_____

_____

TEST DIRECTOR W. M. Burns G.E. R/M OBSERVER _____

CUSTOMER WITNESS _____

FAILURE ANALYSIS NO. 13

Part Name:		Power Module
Major Assembly:		Radar Receiver Transmitter
Manufacturer:		General Electric Company
	a)	*MSC Transistor Design*
	b)	PHI Transistor Design
Failure Date:		Power module performance was checked at the conclusion of the test. 7-17-76

Failure Symptom:

The test data at the conclusion of the test (D. C. current readings) was compared with the initial data taken at the beginning of the test. (See attached sheets). The D. C. current readings were taken while transmitter was gated on.

Failure Criteria:

Criteria established to discern the status of the power modules consisted of:

(1) Measuring D. C. current for each module.

(2) Compare D. C. current reading for each module to highest D. C. current reading.

(3) If a module D. C. current reading approximately one-half (1/2) the largest reading, then module considered failed. These readings originally taken on the array. D. C. current readings verified on bench test set-up after power modules were removed from the array.

Conclusions:

There were only 15 failures recorded during this test.

The following modules were inadvertently removed.

Row	Location
2	AR 7
6	AR 3
27	AR 5
35	AR 9
52	AR 17

The same readings were recorded for the following power modules when a spare module was used:

Row	Location
39	AR 10
47	AR 12

The new readings for modules replaced in the arrays are shown on the right hand column of the power module status data.

The Power Module status data indicates transmitters 7, 17, 25 and 51 could not be checked at the conclusion of the tests due to predriver failures. During preship these transmitters were tested and were found to contain no additional failures.

Row 26 is indicated to have had a row power supply faulted. The actual failure was due to a shorted +28 VDC bus. Row 26 tested after repair and power modules tested OK.

Row 11, drivers AR 11, 12 data was not recorded. Reason unknown. However, based on status for remaining modules would indicate these power modules were OK at the conclusion of the tests.

During these tests the following operating time, relevant failures and recorded failure rates:

Row 18, power module AR 19 had an open D. C. load.

During these tests the following operating time, relevant failures and recorded failure rates were recorded for the PAI, MSC designs

Design	Modules in the Array	Accumulated Operating Time	Relevant Failures	Failure Rate $F/10^6$ Hours
MSC	648	353,808	9	25.4
PHI	306	167,076	6	35.9
Total	954	520,884	15	28.8

F. A. No. 13

The failure analysis for the power modules shows that the majority of all modules were not random failures, but, failures attributable to known deficiencies. Modules M0105, M0119, M0355, M0530, M0688, M0981, showed evidence of Al migration. Modules P0910 showed signs of metallization lifting.

Transmitter ROW		Power module location 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 (D.C. Current Readings)	
(M) 1	BEFORE	35 37 39 38 38 38 35 39 42 47 40 47 44 38 43 47 45 50	
	AFTER	40 40 44 36 38 39 36 39 46 45 39 48 46 42 46 48 45 54	
(P) 2	BEFORE	34 43 49 46 32 40 46 44 42 45 54 46 40 39 48 42 47 52	
	AFTER	34 46 46 42 [26] 37 43 44 40 45 53 47 44 45 44 42 48 59	49
(M) 3	BEFORE	39 41 42 43 39 43 43 41 44 42 41 43 49 45 42 47 46 50	
	AFTER	38 39 41 [0] 36 41 41 40 43 41 39 41 48 43 41 45 44 49	42
(M) 4	BEFORE	37 35 40 37 34 36 40 39 38 35 34 30 37 35 37 45 44 46	
	AFTER	43 30 44 43 39 42 43 46 46 42 40 33 44 32 43 49 47 48	
(P) 5	BEFORE	46 40 39 38 45 42 35 39 42 42 50 44 46 43 45 54 44 53	
	AFTER	[31] 48 49 45 49 45 42 49 54 48 54 52 55 54 53 59 51 58	53
(P) 6	BEFORE	39 47 44 49 49 46 45 51 52 45 49 45 47 46 43 50 52 56	
	AFTER	[31] 51 48 46 48 44 47 47 51 44 48 48 49 48 47 53 54 50	49
(M) 7	BEFORE	37 35 42 35 40 36 39 41 39 36 42 48 48 35 37 50 37 50	
	AFTER	PRE RIVER failure	
(P) 8	BEFORE	53 45 46 50 49 48 44 47 35 43 55 51 44 45 45 51 53 55	
	AFTER	52 53 51 53 48 46 44 51 56 49 [32] 48 45 47 51 53 54 56	55
(M) 9	BEFORE	41 36 40 39 39 39 39 43 43 41 40 45 42 45 41 45 44 37	
	AFTER	40 37 40 41 38 39 42 39 46 44 43 46 43 43 41 48 46 40	
(P) 10	BEFORE	44 35 41 39 36 37 38 35 36 31 41 41 34 41 36 48 43 42	
	AFTER	48 41 43 43 42 41 39 39 43 38 43 48 40 44 40 49 48 47	
(M) 11	BEFORE	38 44 44 40 40 38 35 49 32 35 42 39 42 42 42 45 41 42	
	AFTER	40 46 46 39 39 40 40 53 - - 41 44 43 44 44 51 41 48	

POWER MODULE STATUS

ROW		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(M) 12	BEFORE	44	42	37	38	36	34	32	39	44	32	41	37	36	37	37	37	41	43
	AFTER	46	44	38	41	37	37	33	41	45	35	42	39	39	39	39	40	43	46
(M) 13	BEFORE	44	46	41	39	39	47	43	41	43	44	44	45	46	46	45	46	42	48
	AFTER	42	44	40	38	39	48	42	41	42	44	42	44	45	46	44	45	42	48
(M) 14	BEFORE	45	46	46	41	40	46	46	46	48	46	49	42	45	52	42	48	46	44
	AFTER	38	39	42	37	36	41	35	34	42	34	43	42	42	43	38	45	43	39
(M) 15	BEFORE	36	38	37	37	35	34	36	35	38	35	37	37	41	39	40	46	48	43
	AFTER	42	43	46	38	39	38	45	36	51	45	41	42	46	44	44	50	47	48
(M) 16	BEFORE	40	40	43	37	34	42	37	46	37	44	35	37	38	35	39	42	43	40
	AFTER	42	41	44	39	35	44	38	47	37	45	36	38	38	36	40	43	45	42
(M) 17	BEFORE	45	45	48	46	45	46	47	54	45	48	55	46	48	47	46	50	45	54
	AFTER	PREDRIVER Failure																	
(M) 18	BEFORE	44	38	44	43	43	43	46	46	42	41	45	42	45	40	39	52	X	45
	AFTER	44	42	46	44	44	42	48	45	48	44	44	42	46	43	44	52	X	46
(M) 19	BEFORE	39	39	48	47	37	43	45	46	42	38	40	44	41	49	46	45	44	46
	AFTER	43	43	48	51	43	43	43	48	50	46	43	44	47	50	48	47	48	49
(M) 20	BEFORE	39	38	36	36	40	36	36	32	36	41	41	44	45	45	41	40	40	38
	AFTER	44	38	40	41	43	43	40	38	45	49	45	47	46	48	46	44	46	48
(M) 21	BEFORE	48	39	48	40	44	45	38	39	42	43	37	42	45	42	50	43	48	52
	AFTER	49	39	49	40	44	26	38	40	41	44	36	42	43	41	50	43	49	52
(M) 22	BEFORE	42	39	40	37	38	34	37	36	44	39	43	45	38	39	41	41	42	47
	AFTER	44	39	43	36	37	37	38	35	48	42	42	46	42	44	45	47	41	46

43

ROW		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
(M) 23	BEFORE	35	45	50	41	42	50	41	49	42	43	40	39	39	47	38	36	41	42	
	AFTER	41	49	52	46	45	[30]	39	48	52	49	44	42	45	48	40	48	46	47	✓ 47
(M) 24	BEFORE	37	37	38	35	35	34	35	39	37	34	47	35	34	33	35	40	37	40	
	AFTER	43	44	42	39	39	38	39	43	45	38	45	39	35	38	38	44	40	42	
(P) 25	BEFORE	43	47	44	44	41	45	45	51	36	36	53	48	49	44	46	50	50	49	
	AFTER	PRE DRIVER Failure																		
(P) 26	BEFORE	44	42	46	41	38	42	41	40	40	43	43	47	41	42	49	[illegible]		30	
	AFTER	POWER SUPPLY Faulted																		
(P) 27	BEFORE	57	51	37	48	50	48	48	54	50	49	53	48	52	52	45	55	48	50	
	AFTER	57	52	[35]	49	51	49	49	53	52	51	55	50	52	47	45	58	[illegible]		54
(M) 28	BEFORE	44	41	47	46	41	43	37	44	38	40	42	47	45	41	40	45	42	41	
	AFTER	50	46	50	49	46	48	41	48	46	48	[12]	51	50	47	[30]	51	48	49	✓ 47 41
(P) 29	BEFORE	41	45	49	48	49	47	42	45	46	46	50	49	55	49	49	52	49	50	
	AFTER	49	[27]	55	54	53	50	48	48	53	49	54	54	56	52	55	59	52	55	✓ 55
(P) 30	BEFORE	47	56	52	44	35	51	51	48	47	48	54	52	53	52	49	44	57	57	
	AFTER	48	56	52	44	36	52	53	48	49	50	55	54	54	53	50	45	57	58	
(P) 31	BEFORE	48	48	48	48	49	51	50	55	49	46	55	56	53	52	55	58	54	51	
	AFTER	48	49	50	52	54	58	49	52	[31]	50	52	58	55	56	56	60	56	54	✓ 53
(P) 32	BEFORE	47	43	42	46	44	42	45	52	48	45	45	46	52	51	48	46	47	53	
	AFTER	46	42	42	45	43	38	45	49	49	45	43	46	51	50	48	44	47	52	
(M) 33	BEFORE	42	42	42	36	46	37	34	48	38	43	44	42	42	36	36	41	41	42	
	AFTER	46	42	42	39	50	44	44	48	41	48	42	42	42	39	33	44	43	41	

ROW		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(M) 34	BEFORE	51	52	42	43	40	49	45	41	41	43	49	40	49	44	46	49	45	46
	AFTER	51	53	45	47	46	50	46	44	46	46	48	41	49	48	47	51	49	51
(M) 35	BEFORE	40	40	41	39	41	46	30	41	47	43	42	40	47	42	48	41	45	45
	AFTER	43	43	43	[23]	40	45	[28]	43	46	41	45	38	45	42	48	43	48	49
(M) 36	BEFORE	45	40	46	41	45	43	37	42	36	34	37	39	45	41	43	41	47	47
	AFTER	51	44	50	46	49	46	44	50	48	45	45	43	43	48	46	45	49	47
(P) 37	BEFORE	44	40	42	41	41	47	35	45	42	41	49	44	40	41	39	36	45	46
	AFTER	48	51	49	46	40	46	46	40	51	48	57	55	44	53	47	39	52	54
(M) 38	BEFORE	37	34	37	45	40	39	41	37	41	38	38	44	50	40	35	46	45	44
	AFTER	42	41	41	42	39	41	41	40	43	42	45	45	49	44	41	46	44	43
(M) 39	BEFORE	38	44	42	37	38	40	39	47	45	44	46	42	47	43	41	45	43	47
	AFTER	40	42	39	40	41	45	39	[0]	44	48	45	42	49	45	46	45	41	[25]
(M) 40	BEFORE	40	40	46	40	35	43	42	37	44	36	49	48	47	46	48	47	52	54
	AFTER	44	42	43	41	39	41	48	39	45	45	46	38	45	46	51	43	49	53
(M) 41	BEFORE	36	42	42	44	44	47	47	46	41	46	47	46	46	43	44	48	49	40
	AFTER	34	43	42	43	45	44	49	44	42	46	46	49	46	43	44	50	50	41
(M) 42	BEFORE	40	45	46	36	44	42	42	40	39	40	46	45	42	40	44	46	43	44
	AFTER	39	45	46	36	43	42	43	39	41	41	45	46	42	41	43	46	43	44
(M) 43	BEFORE	42	43	46	46	48	47	44	45	47	45	50	47	46	44	47	46	43	45
	AFTER	43	43	46	46	47	48	42	47	46	45	52	44	45	41	46	44	43	43
(M) 44	BEFORE	44	45	42	42	36	37	39	40	37	44	44	41	42	39	43	41	44	47
	AFTER	42	39	46	47	38	41	38	43	47	47	43	48	48	42	47	48	48	52

45 38

0 58

ROW		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
(M) 45	BEFORE	41	42	47	49	48	39	50	45	43	[illegible]	47	41	41	38	40	50	[illegible]	[illegible]
	AFTER	40	45	51	45	45	[25]	[illegible]	49	[illegible]	[illegible]	[illegible]	[illegible]	42	39	43	50	[illegible]	[illegible]
(P) 46	BEFORE	42	52	57	48	46	47	47	51	63	55	49	48	50	55	50	52	53	52
	AFTER	41	52	54	45	48	45	49	51	62	54	48	54	48	55	50	52	54	53
(P) 47	BEFORE	58	54	62	49	49	55	55	50	56	47	42	62	57	57	58	69	47	47
	AFTER	56	52	59	47	48	52	52	48	43	[36]	[25]	61	55	56	56	62	55	45
(M) 48	BEFORE	40	48	37	47	46	47	44	49	45	45	48	47	47	47	47	51	50	55
	AFTER	38	47	35	46	45	47	43	48	[illegible]	44	48	46	46	46	46	49	50	54
(M) 49	BEFORE	45	49	45	48	43	51	50	51	35	39	51	40	45	47	45	47	41	45
	AFTER	53	46	42	43	41	[illegible]	[illegible]	[illegible]	41	35	51	48	[illegible]	[illegible]	45	49	48	50
(M) 50	BEFORE	40	34	41	43	35	42	41	[illegible]	41	45	51	39	41	41	41	41	[illegible]	41
	AFTER	42	47	45	45	39	38	43	46	[29]	44	51	40	42	44	[illegible]	33	[illegible]	[illegible]
(M) 51	BEFORE	40	40	50	42	43	[illegible]	45	44	50	[illegible]	46	50	42	40	41	43	[illegible]	[illegible]
	AFTER	PREDRIVER Failure																	
(P) 52	BEFORE	52	49	53	48	56	48	47	48	49	50	53	53	55	47	30	51	52	52
	AFTER	50	47	51	46	55	46	47	46	49	49	43	52	55	46	[illegible]	49	[illegible]	51
(P) 53	BEFORE	39	35	41	35	36	41	[illegible]	[illegible]	48	47	45	42	39	41	45	39	[illegible]	21
	AFTER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(M) 54	BEFORE	43	[illegible]	41	35	36	[illegible]	51	43	43	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	AFTER	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	43	46	43	46	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FAILURE ANALYSIS AND CORRECTIVE ACTION REPORT

REPORT NO. 2629 PROJECT AN/TPS-59 S.O. 187-630 FAILURE DATE *6/15 & 7/30/76

COMPONENT POWER MODULE DWG. NO 7250161A0564 VENDOR GE(HIC) SERIAL NO. SEE BELOW CKT. SYM —

ROW

AFFECTED ASSM. TRANSMITTER DWG. NO. 7250161A0961 ASSY. REF. 1,1,1,2 SERIAL NO. SEE BELOW

TEST & ENVIRONMENTAL COND. SYSTEM OPERATION (VERONA) TOTAL UNIT TEST TIME NOT AVAILABLE

THIS PORTION FOR INITIATION OF FAILURE ANALYSIS LIST ALL 7057 NO'S

FAILURE SYMPTOMS:

*A19375 NO OUTPUT 11AR9 U733

A20801 LOW POWER OUTPUT

3AR6 M1008 28AR17 M0823 5CAR11 M010
21AR8 M0530 35AR6 M0119
23AR8 M0981 39AR20 M0335
28AR13 M0688 45AR8 M0990

A20802 LOW POWER OUTPUT

2AR7 P0199 8AR13 P0627 47AR13 P0465 17AR10 P0179
5AR3 P0211 27AR5 P0910 52AR17 P0451 17AR6 P0384
*6AR3 P0140 29AR4 P0534 17AR12 P0288
31AR11 P0664 17AR17 P0459

OTHER EQUIPMENT FAILURES OBSERVED SIMULTANEOUSLY WITH SUBJECT FAILURE

NAME M. D. FOX DATE 8-12-76 EXT. 7715 BLDG. 3 ROOM 31 LOCATION CSP

THIS PORTION FOR FAILURE ANALYSIS SUMMARY

COMPONENT ANALYSIS: See attached report for details.

DESIGN ANALYSIS:

RECOMMENDATION FOR CORRECTIVE ACTION: None See attached report.

NAME J. Hinchley DATE 8-16-76 EXT. 7275 BLDG. 4 ROOM 1 LOCATION CSP-

Attach separate sheet(s) for detailed failure analysis and recommendations

THIS PORTION FOR CORRECTIVE ACTION

CORRECTIVE ACTION:

HMED 6578 A

DATE OF EFFECTATION: _____ ASSEMBLY NO. _____ SERIAL NO. _____

E. C. N. NO. _____ E. N. NO. _____

NAME _____ DATE _____ EXT. _____ BLDG. _____ ROOM _____ LOCATION _____

FAILURE ANALYSIS AND CORRECTIVE ACTION REPORT NO. 2629

Marking 725016A0504
Serial Number and date code

Manufacturer: GE, HMED, Syracuse

Reason for Rejection:

Low or no output power.

Failure Analysis:

None of the 23 modules were electrically tested due to lack of an R. F. test set up.

Table I is a sequence of specific observations made on each module by serial number. A yes response in Table I indicates positive finding for each test listed below:

Test #1 is inspection for damaged input pads.

Test #2 is inspection for damaged output pads.

Test#3 is an inspection of the cover for melted holes.

Test #4 is an indication of hand soldered lids (the alternative is seam welded).

Test #5 is inspection for corrosion on the Au runs prior to lid removal.

Test #6 is inspection for extraneous tuning straps on the substrate.

Test #7 is gross leak test.

Test #8 is broken, burned, or missing external B+ straps on the cover.

Test #9 is damage on carrier A2

Test #10 is damage on carrier A3

Test #11 is damage on carrier A4

Test #12 is damaged tantalum cap at carrier A2

Test #13 is damaged tantalum cap at carrier A3

Test #14 is damaged tantalum cap at carrier A4

Test #15 is damaged B+ strap (melted open or discolored) at carrier A2

Test #16 is damaged B+ strap (melted open or discolored) at carrier A3

Test #17 is damaged B+ strap (melted open or discolored) at carrier A4

Test #18 is open melt of Au run on substrate.

The one thing that stands out above everything else on Table I is A3 is a major failure mode on PHI. This may not be news but it does point up the fact that the additional heat transfer area on the MSC units plus a slightly better efficiency in the MSC device adds up to less failures.

Reference P0179: A3 and A4 were destroyed. The temperature came up to solder reflow and the carriers floated in the solder. This caused the emitter ends to lift off the substrate. It was also noted that the T_A cap floated towards A3 in both P0179 and P0384.

Row 17

Reference P0199: Carrier A3 is probably a vendor defect. The gold and tantalum peeled off the $S10_2$ resulting in opens.

Reference P0211: This one appears to be a true transistor failure with thermal damage limited to the surface of the chip and flying leads. This one I think tells the story - the flying leads are melted loose at the chip interface but even then did not move. This puts to rest the possibility of the Au flying leads shifting to cause shorts. They may sag due to overheating but they apparently don't shift position.

Reference P0288: A4 has Au smearing on one cell which induced overcurrent in one emitter finger. This evidently caused circuit unbalance which resulted in the destruction of A3. Inspection at assembly should have removed A4.

Row 17

Reference P0384: Both A3 and A4 were destroyed. The module was hot enough to reflow the carrier mount down solder. This one was not an instantaneous short with the power supply driving it. It was overheated for at least milliseconds duration of time and based on the condition it appears A4 may have gone first and overloaded an already hot A3.

Row 17

Reference P0459: A3 has an open emitter cell. The tantalum ballast resistor is not discolored and there is no evidence of overheating on the Au finger. It looks like the tantalum peeled off the $S10_2$. I suspect this caused A4 to be destroyed.

Row 17

Reference P0465: There is no evidence of general module overheating. The damage is confined to A3. I suspect a transistor failure to be the single cause on this one.

Reference P0534: Carrier A3 was destroyed. It looks like this device went into thermal run away and may be due to chip mount down.

Reference P0627. Carrier A3 is completely destroyed. The module temperature reached the point that A2 and A4 carrier mountdown solder reflowed.

Reference P0664: Carrier A3 is destroyed. Carrier A4 mountdown solder reflowed and evidence of Au reflow on A4 can be seen.

Reference P0740: A4 was destroyed and the evidence of heat confined to the transistor suggests a void in the chip to carrier mountdown.

Reference P0751: This whole module has been too hot. Carrier reflow appears on all three carriers. A3 is the failed carrier.

Reference P0910: A3 is destroyed and carrier reflow did not take place. A4 has tantalum ballast resistors peeled off everywhere. This one would provide an interesting study and most likely would prove to be a vendor problem with metal adhesion on A4 and its failure probably caused A3 to be destroyed.

Reference M0105: A3 has the base leads melted open. Evidently they contacted the collector supply by shorting to a large S1Au solder wave at the collector pad. This one should have been removed by visual inspection. The EB stripe spacing on A3 is very wide compared to A4 i.e., about 4 to 1 and strangely enough, A3 shows Al migration.

Reference M0119: This module is a single chip (A3) failure that does not appear to be related to other circuit components. Thermal damage is beyond a meaningful analysis but Al migration is suspected.

Reference M0355: A3 has been destroyed and A4 has enough Al migration to convince me that it (A4) probably deteriorated with time causing circuit unbalance and hence the destruction of A3.

Reference M0530: A4 was destroyed. A3 has damage caused by the base bonding operation and probably inspection should have removed A3. A2 has some Al migration.

Reference M0688: A2 has Al migration and Al regrowth in the bonding pad regions. A4 is also damaged electrically.

Reference M0733: This is the only MSC module with a T_A cap problem. The T_A cap at input to A2 has evidence of heat damage and melted metal on the substrate between anode and cathode. I suspect the T_A cap shorted but can't prove it as the device heals itself on cooling. The B+ strap to the cap is melted open. A2 was damaged electrically.

Reference M0823: This device has a very limited amount of damage on A4 but I have no real thoughts on why it failed.

Reference M0981: The thick film cap which is an output coupling cap for A4 has either electrical damage or corrosion. I suspect the cap detuned the circuit and overloaded A4 destroying it. A2 shows Al migration and regrowth.

Reference M0990: A3 has one emitter ballast resistor opened. Suspect this unbalanced the circuit causing A4 to be completely destroyed.

Reference M1008: This one may have been removed in error. I see nothing visually wrong with it and of course I did not retest it for lack of equipment.

Figure I is a sample photo of the Al migration. This photo is M0688(A2). The silver bar is shown between the emitter and base stripes. Also, this photo shows evidence of Al regrowth.

Figure II is a sample of Au peeling. This unit is P0199 (A3). The out of focus emitter runs are turned up towards the camera. Particles of Au/T_A can be seen all over this chip.

Conclusions:

Specific conclusions will not be made on this analysis because of the limited effort. Where cause or condition of failure was suspected, it is noted in the body of the report.

Additional efforts should be directed towards consideration of heat transfer on the PHI carriers and Al migration on the MSC modules.

R. M. McWharf
R/M Engineering

TABLE I

Vendor	S/N	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
PHI	179	No	No	Yes	Yes	No	No	Yes	No	No	Yes	Yes		Yes		No	No	No	Yes
	199			No				No			Yes	No		No					No
	211			No				No			No	Yes		No					No
	288			No				No			Yes	Yes		No					No
	384			Yes				Yes			Yes	Yes		Yes					Yes
	459			No				No				Yes		No					Yes
	465				Yes			Yes				No							No
	534				No			No				No							Yes
	627				No			No				No							Yes
	664	No	No		No			No			Yes	Yes							Yes
	740	Yes	Yes		No			Yes			No	Yes							No
	751	No	No		Yes			No			Yes	No							No
	910	No	No	No	Yes	No	No	Yes	No	No	Yes	Yes		No		No	No	No	No
MSC	0105	No	No	No	Yes	No	No	Yes	No	No	Yes	No	No	No	No	No	No	No	
	0119				Yes		Yes	No		No	Yes	No							
	0355				No		No			No	Yes	Yes							
	0530				Yes					Yes	Yes	Yes					No		
	0688				Yes					Yes	No	Yes		No			Yes		
	0733				No				No	Yes		No		Yes			Yes		
	0823	No			Yes	No			Yes	No		Yes		No			No		
	0981	Yes			No	Yes		No	Yes	Yes	No	Yes							
	0990	No			No	No		Yes	No	No	Yes	Yes							
	1008	No	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	

Not applicable to PHI Design

Not applicable to PHI Design

Not applicable to MSC Design

NOTE: (1) The holes in the cover on P0179 and P0384 invalidates gross leak data in Test 7.

(2) The tantlum cap damage shown in Test 13 for PHI 179 and PHI 384 is not destroyed caps. They have shifted off their mounting pad as a result of overheating of the module.

FAILURE ANALYSIS NO. 14

Part Name: Row Power Supply725016A0592

Location/Time of Failure:

RPS S/N	Row Location	Failed	Replaced on Array
5	14	6/25/76	7/13/76
14	4	6/26/76	7/13/76
36	12	7/6/76	7/14/76
49	26	7/6/76	7/14/76
55	22	6/23/76	7/13/76

Manufacturer: General Electric Company

Mode of Operation: Normal Tactical Operation

Failure Symptom:

No output, PM transmitter status, FL 361 Flag

Failure Cause:

RPS Serial No.	Cause	Remarks
49	Moisture	Checked good after drying
5	Cable shorted	Assembly problem, no associated component failure
55	Crimped wire connection	Assembly problem associated HIC driver failure
14 36	HIC Rectifier connection	Fabrication Problem

The previous recorded failure frequency for these power supplies was:

S/N	No. Times Failed
49	1
5	1
55	2
14	4
36	2

However, each of these supplies had been opened up at least twice before.

Failure Category:

Power Supplies S/N 14, 36 are considered non-relevant failures. It turns out that

F. A. #14

power supply rectifiers that had failed previously did so when ambient temperature became increasingly warm. The problem is the result of isotherm set-up of solder joint.

Suspect problem caused by operator holding strap down during solder operation may have moved the strap allowing crack to form.

Correction to problem:

1) Use solder machine which eliminates operator from bolding down strap.

2) Use of different joint strap. New over-lap technique at joint would be to use platinum gold overlay for both Beryllium Oxide and gold pad surface providing stronger bond.

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APPENDIX M

FAILURE FREQUENCY AND MAINTENANCE ACTIONS

RELIABILITY DEMONSTRATION (1)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
1	6/21	1:00	- Correction Row power supply (17) was repaired and on array before test start.	Started 11:00 p.m. less 1 row power supply (17), less 1 receiver (3), less 3 row cooling fans. Problem is exciter which will cause continuous PM 164 printout. (Limited operation f_1-f_7)
2	6/22	9:00	1 Row Power Supply (22) (defective crimped wire connection)	FL messages on IFF. Reduced IFF gain on TPX-28 and continued test. Limited operation (f_2-f_7)
3	6/23	32:15	-	-
4	6/24	48:00	Exciter Intermittent	Indication of exciter failure at 12:00 on 6/23 took 7 1/2 hours to determine intermittent connectors on analog board. Soldered and continued. 0745 on 6/24-Hardware fault indication due to line voltage error.
5	6/25	70:30	1 Row Power Supply (4) HIC Rectifier Solder Connection Problem	22:00 - Diesel 4 went down. Changed to diesel 1 and 2.

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

RELIABILITY DEMONSTRATION (1) (Continued)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
6	6/26	91.33	1 Row Power Supply (14) 1 TX (Row 17) Power supply problem determined to be short due to cable rubbing against stub.	At 23:13 Signal Processor Breaker tripped. DCAS notified. Seals broke and shelter reset. Down time 1:12.
7	6/27	113:36	GFE Air Conditioner	At 16:02 temp. light came on in display. System shut down and DCAS notified. Problem due to AC failure. AC's interchanged to continue operation. Repaired AC back on at 20:18 System outage 1:32.
8	6/28	136:54	-	-
9	6/29	159:39	-	Row 38 Δ AZ receiver appears weak. Air Conditioner #1 which cools Unit 7 kicked off at 1510. Reset appears O.K. Test continued. Thresholds adjusted to reduce PM 164 (insufficient MTI cancellation). New tape introduced with new thresholds at 1600 hours. System performance normal. Lightning experienced - P.M. detected-parity error only impact.

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

RELIABILITY DEMONSTRATION (1) (Continued)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
10	6/30	181:53	-	Generator #3 kicked out from over-temperature causing system to go off air. This is first time array has experienced shut down transient resulting from simultaneous removal 5 volt supply. No resultant failure. Outage was 30 min. Tx #7 looks weak - possibly one driver out.
11	7/1	205:08	-	Generators #3 & #5 put back on line through utilization of Generator #1 parts. Row 38 Σ receiver appears weak. (May be monitor path.) Row 4 Δ AZ appears weak. (Lighning in area.)
12	7/2	227:10	-	Test Signal generator output from signal processor Channel 1 below threshold, others low. Detection is continuous to 236 nmi.

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

RELIABILITY DEMONSTRATION (1) (Continued)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
13	7/3	247.20	-	Azimuth drive system housing showed some loosening and had to be reset. This could be corrected with aircraft type lock down nuts.
14	7/4	268:38	Exciter Amp Trans Row 25 Trans Row 29	A substitute exciter amplifier is being used to keep the system on the air. Funding was received and redesign of this amplifier; known to be weak, initiated prior to its failure.
15	7/5	287:04	419 Board (Preprocessor) Trans Row 7 419 Board tested O.K. Problem may be intermittent bit. Complete failure would have resulted in loss of MTI to 100 nm.	The FL program identified a 419 board as bad with an FL 235 message. Board serial #71 was replaced and the fault cleared. Additional maintenance time was taken for a cooling problem on Gen. #3.
16	7/6	308:07	-	Substitute exciter gen. spurious intermittently which cause excessive PM messages.
17	7/7	328:02	Row Power Supplies 12,26 Row 12 HIC Rectifier Solder Connection Problem Row 26 had moisture and punctured through diode mica insulator. New mica cleared problem	Trans Row 29 came back on. Daily start up delayed due to test cable short inhibiting row blowers from coming on.

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

RELIABILITY DEMONSTRATION (1) (Continued)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
18	7/8	348:57	-	-
19	7/9	372:42	-	-
20	7/10	395:11	-	-
21	7/11	417:51	-	-
22	7/12	440:41	-	Generators dropped off line twice in last 24 hours. (hot and humid)
23	7/13	463:28	-	Replaced 3 power supplies on Rows 4, 14 and 22. Sum receive Row 3 looks good. 12 rpm mode problem corrected - faulty board. Row 29 Tx went out again.
24	7/14	486:23	Trans Row 51	Trans Row 29 came back on again.
25	7/15	509:06	-	6.3 hrs identified for jamming strobe problem resulting from exciter amplifier. Amplifier changed and problem cleared.
26	7/16	524:40	-	Accumulated 7.3 hours at 12 rpm. TPS-28 transmitter out. Down time: 26 min. Gen. outage, 37 min. Gear inspection prior to initiating 12 rpm, and 15 min. misc.

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

RELIABILITY DEMONSTRATION (1) (Continued)

DAY #	DATE	CUMULATIVE HOURS	RADAR COMPONENT FAILURES (2)	REMARKS
*27	7/17	546:56	-	Row 26 Power Supply failed after repair.

TESTS SUCCESSFULLY COMPLETED

(1) Status as of 9 a.m. daily.

(2) Not considered to be a system failure unless so noted.

* Change since last report.

APPENDIX N

TEST DATA

A-108

Row- Receiver Performance (Amplitude)

Row	7/12/76 Σ	A	E	7/13/76 Σ	A	E	7/14/76 Σ	A	E	7/15/76 Σ	A	E	7/16/76 Σ	A	E	7/ Σ	A	7/76 E
1	9	12	8	17	22	19	9	14	9	8	11	8	9	13	9	9	13	8
2	9	11	13	15	20	24	8	13	13	8	11	12	8	11	13	9	12	13
3	6	14	11	15	26	33	6	15	11	1	14	11	1	15	13	4	15	14
4	8	12	8	16	18	22	7	11	10	7	9	8	8	11	9	9	9	9
5	10	14	18	18	25	33	9	14	19	10	12	16	9	15	19	9	15	18
6	10	14	14	20	21	27	10	13	15	9	12	13	11	14	14	12	14	12
7	13	20	19	24	34	41	12	22	20	12	18	20	13	20	21	13	20	20
8	14	16	20	22	25	35	14	16	22	12	17	21	9	18	12	8	18	11
9	15	22	16	28	37	43	14	22	21	13	22	20	14	24	21	16	23	21
10	15	21	17	28	35	38	15	22	19	14	20	17	15	23	17	16	23	16
11	16	20	26	32	33	48	15	24	26	15	19	25	17	23	26	17	22	27
12	23	32	26	39	52	55	22	36	30	21	30	29	23	34	31	25	35	28
13	17	25	28	31	43	53	17	26	33	17	24	27	18	28	29	18	28	29
14	23	27	26	41	44	54	22	29	29	19	26	25	23	28	28	25	28	26
15	25	36	36	42	56	63	24	38	40	22	33	36	25	38	39	25	38	37
16	22	25	27	40	43	53	21	25	32	21	23	26	22	29	27	23	28	26
17	25	35	31	44	59	56	25	35	33	24	33	30	26	38	33	27	37	32
18	34	34	29	54	53	60	33	40	32	31	33	29	33	38	30	36	38	28
19	31	41	38	53	62	66	26	48	38	25	33	34	27	37	36	27	38	35
20	30	40	35	53	62	61	24	44	36	28	36	33	30	38	35	31	41	33
21	31	51	43	52	71	66	29	53	62	28	45	57	29	49	60	32	50	60
22	34	43	33	57	65	61	33	44	36	32	40	32	34	43	35	37	45	38
23	33	45	44	53	61	68	31	43	43	29	41	39	32	45	42	33	45	48
24	36	46	52	60	78	77	34	46	52	33	43	48	35	49	51	37	49	51
25	33	33	47	58	56	71	32	36	44	30	36	39	33	32	46	34	41	44
26	26	46	43	49	66	69	26	44	43	23	44	39	27	48	43	30	48	42
27	28	41	47	48	63	74	27	39	45	26	38	41	27	40	45	29	43	44
28	32	43	54	54	78	78	31	49	52	29	47	50	31	52	53	33	51	58
29	24	40	35	43	58	64	23	36	36	22	36	34	24	40	37	26	41	36
30	28	44	47	45	68	71	26	44	47	26	41	44	28	47	47	29	47	46
31	32	49	50	54	67	75	30	46	49	29	44	44	31	50	48	33	49	48
32	32	46	50	50	67	73	31	45	50	28	43	44	31	49	49	32	48	46
33	28	35	48	46	50	48	27	33	45	25	31	43	28	38	45	27	36	45
34	34	39	41	56	63	68	31	36	39	29	33	36	32	39	38	34	38	34
35	31	41	39	53	61	64	31	41	42	28	38	35	30	44	36	30	44	35
36	24	36	39	39	53	58	22	34	40	20	33	35	24	38	38	25	38	35
37	26	41	35	47	65	59	25	42	36	24	38	31	28	43	33	27	43	31
38	16	19	24	29	32	43	15	19	23	15	18	21	16	22	22	17	20	22
39	25	31	35	43	51	57	25	38	33	23	29	30	24	33	33	25	33	30
40	18	29	31	32	46	55	17	27	30	16	26	27	18	29	33	19	30	29
41	3	21	21	8	36	43	5	21	22	4	22	20	5	25	23	6	24	23
42	16	19	24	29	36	40	16	19	23	14	18	19	15	21	21	16	21	21
43	19	25	32	32	41	52	19	22	34	16	23	27	18	25	30	19	25	28
44	12	19	22	24	31	40	13	18	22	12	18	20	13	20	22	13	21	21
45	13	19	24	23	31	43	12	17	25	10	16	21	11	18	23	12	18	22
46	13	18	22	23	23	39	14	16	25	11	17	20	13	18	21	13	18	21
47	8	14	20	17	23	36	8	12	28	8	13	17	9	15	18	9	14	20
48	8	14	19	14	24	31	9	18	21	8	13	17	8	16	18	9	14	19
49	8	12	15	15	32	37	8	12	16	8	12	13	8	14	13	9	14	13
50	8	13	17	12	23	36	6	13	19	6	12	14	7	13	17	8	14	17
51	6	9	12	12	14	26	7	8	15	6	9	12	5	10	12	7	10	12
52	7	12	14	13	19	27	8	13	16	6	10	12	7	11	14	7	12	21
53	9	9	11	14	17	21	9	8	14	7	8	9	8	10	11	9	10	9
54	4	7	9	11	15	21	7	7	12	4	6	9	5	8	9	5	8	10

2

7/15/76			7/16/76			7/17/76		
Σ	A	E	Σ	A	E	Σ	A	E
8	11	8	9	13	9	9	13	8
8	11	12	8	11	13	9	12	13
1	14	11	1	15	13	4	15	14
7	5	8	8	11	9	9	9	9
10	12	16	9	15	19	9	15	18
9	12	13	11	14	14	12	14	12
12	18	20	13	20	21	13	20	20
12	17	21	9	18	12	8	18	11
13	22	20	14	24	21	16	23	21
14	20	17	15	23	17	16	23	16
15	19	25	17	23	26	17	22	27
21	30	29	23	34	31	25	35	28
17	24	27	18	28	29	18	28	29
19	26	25	23	28	28	25	28	26
22	33	36	25	38	39	25	38	37
21	23	26	22	29	27	23	28	26
24	33	30	26	38	33	27	37	32
31	33	29	33	38	30	36	38	28
25	33	34	27	37	36	27	38	35
28	36	33	30	38	35	31	41	33
28	45	57	29	49	60	32	50	60
32	40	32	34	43	35	37	45	30
29	41	39	32	45	42	33	45	40
33	43	48	35	49	51	37	49	51
30	36	39	33	32	46	34	41	44
23	44	39	27	48	43	30	48	42
26	38	41	27	40	45	29	43	44
29	47	50	31	52	53	33	51	50
22	36	34	24	40	37	26	41	36
26	41	44	28	47	47	29	47	46
29	44	44	31	50	48	33	49	48
28	43	44	31	49	49	32	48	46
25	31	43	28	38	45	27	36	45
29	33	36	32	39	38	34	38	34
28	38	35	30	44	36	30	44	35
20	33	35	24	38	38	25	38	35
24	38	31	28	43	33	27	43	31
15	18	21	16	22	22	17	20	22
23	29	30	24	33	33	25	33	30
16	26	27	18	29	33	19	30	29
4	22	20	5	25	23	6	24	23
14	18	19	15	21	21	16	21	21
16	23	27	18	25	30	19	25	28
12	18	20	13	20	22	13	21	21
10	16	21	11	18	23	12	18	22
11	17	20	13	18	21	13	18	21
8	13	17	9	15	18	9	14	20
8	13	17	8	16	18	9	14	19
8	12	13	8	14	13	9	14	13
6	12	14	7	13	17	8	14	17
6	9	12	5	10	12	7	10	12
6	10	12	7	11	14	7	12	21
7	8	9	8	10	11	9	10	9
4	6	9	5	8	9	5	8	10

ROW TRANSMITTER STATUS DATA

ROW #	6/21/76	6/22/76	6/23/76 1215	6/23/76 2330	6/23/76 1550	6/24/76	6/25/76	6/25/76 0050	6/26/76 0210	6/27/76	6/27/76	6/28/76 0505	
1.	7.99	7.01	7.82	13.01	7.60	8.21	7.78	8.07	7.76	7.63	6.74	15.88	
2.	5.24	5.49	4.71	6.48	5.93	5.16	6.69	6.40	7.27	7.49	5.67	6.52	
3.	10.69	11.53	8.98	11.02	12.57	10.44	11.53	11.79	12.75	12.97	10.53	5.88	
4.	9.77	9.08	7.98	8.83	9.16	8.99	1.21	0.91	1.02	0.94	0.96	3.96	
5.	15.56	14.69	13.46	12.89	16.41	14.52	14.53	14.98	16.07	15.88	15.44	5.41	
6.	14.26	13.92	12.58	13.98	14.55	13.10	13.24	13.69	14.57	14.14	14.74	5.91	
7.	10.03	9.44	9.46	11.51	10.73	9.32	9.05	8.21	8.46	7.51	8.92	5.58	
8.	11.91	16.04	10.61	17.10	12.75	11.73	16.08	15.24	15.22	14.55	15.83	6.48	
9.	19.47	18.99	17.60	19.99	20.18	18.89	20.06	20.05	20.64	19.91	20.10	5.76	
10.	15.12	16.02	14.02	19.59	15.76	15.96	18.47	17.66	18.01	19.81	17.50	5.79	
11.	17.43	17.71	16.98	25.12	23.05	17.85	18.31	17.85	18.27	18.39	16.76	4.29	
12.	26.82	27.00	23.25	29.00	26.35	25.81	27.12	26.89	28.62	28.78	29.47	5.93	
13.	23.60	23.22	20.78	26.54	24.52	22.53	23.62	23.[illegible]	24.45	24.61	25.43	5.04	
14.	33.52	32.77	30.81	35.54	33.18	31.86	35.11	0.97	0.96	0.98	1.00	3.47	
15.	34.46	33.66	31.64	37.63	35.84	32.96	32.32	33.21	33.46	33.65	33.35	3.85	
16.	29.09	28.29	27.92	28.25	30.10	29.07	27.60	29.24	30.53	30.81	30.27	5.42	
17.	1.04	1.17	1.10	1.21	1.08	1.23	1.14	0.94	0.95	0.82	0.99	3.17	
18.	38.62	39.51	35.39	41.71	39.07	38.11	40.93	41.10	43.25	43.73	43.99	5.30	
19.	42.20	40.54	37.82	41.91	42.92	39.71	41.81	42.69	42.08	42.03	42.13	5.26	
20.	46.69	46.01	42.67	46.32	46.75	44.25	47.98	46.62	46.60	46.33	46.17	4.86	
21.	55.11	55.92	49.73	56.76	55.13	52.82	55.05	56.36	57.89	60.75	56.57	5.55	
22.	33.89	1.14	1.07	1.26	1.15	1.22	1.21	0.86	0.83	1.04	1.14	4.14	
23.	48.21	46.27	40.57	45.11	45.04	43.77	47.16	49.71	51.82	52.20	51.46	5.50	
24.	63.42	62.53	58.29	62.94	64.49	61.27	64.40	63.74	64.86	64.42	65.64	5.66	
25.	47.09	48.26	42.28	48.06	47.96	46.15	49.48	50.33	51.92	50.39	49.82	5.13	
26.	51.53	51.35	46.67	49.19	52.62	49.67	53.08	51.64	52.73	51.09	53.17	4.69	
27.	49.55	49.89	45.68	49.12	51.55	48.11	50.39	48.93	49.95	50.62	49.18	4.80	
28.	41.57	42.69	38.45	46.64	42.14	42.85	44.93	44.28	45.37	45.07	45.21	5.53	
29.	41.07	40.67	37.89	47.68	41.92	40.78	44.58	41.71	42.69	44.27	42.61	6.07	
30.	53.89	52.66	48.07	49.10	53.85	51.09	55.46	54.94	55.55	55.85	54.49	5.54	
31.	49.69	48.07	44.57	51.58	48.50	46.10	51.57	50.64	51.27	33.55	32.84	4.35	
32.	42.71	43.29	40.11	43.29	44.54	42.57	43.83	42.83	43.68	44.23	42.49	4.95	
33.	48.99	49.67	46.19	51.12	51.84	48.14	52.01	49.53	51.39	51.10	49.94	5.19	
34.	43.40	43.08	39.39	45.80	44.89	42.07	44.42	43.33	44.53	43.15	42.99	5.14	
35.	33.17	33.03	31.13	35.94	33.81	31.90	33.21	31.80	32.82	30.49	31.62	4.67	
36.	40.74	40.99	37.87	42.22	42.51	40.87	43.45	41.96	42.63	43.21	41.56	5.05	
37.	33.64	32.95	30.27	32.82	34.24	32.40	32.28	33.93	34.22	33.61	33.11	4.78	
38.	34.03	34.87	31.31	38.19	35.17	33.28	35.82	34.72	35.52	35.82	34.93	5.57	
39.	28.04	28.98	29.43	30.71	31.37	29.17	30.82	29.41	30.10	28.60	28.85	6.41	
40.	41.23	41.14	41.27	37.68	41.77	37.66	41.23	41.60	42.96	43.50	39.50	5.56	
41.	15.88	25.02	22.03	37.17	17.92	22.85	28.35	28.76	30.23	29.64	13.70	8.23	
42.	10.59	12.98	13.61	21.69	16.08	13.04	14.11	16.35	16.65	14.48	15.69	8.03	
43.	34.16	33.77	30.95	29.45	34.99	32.67	36.32	34.85	35.03	34.86	34.07	5.91	
44.	18.24	17.23	15.71	20.75	18.46	17.50	17.87	18.74	18.92	17.85	18.38	6.19	
45.	20.53	20.39	20.33	21.77	21.74	20.30	20.26	21.64	22.05	19.71	20.39	5.16	
46.	14.89	15.69	14.89	14.24	17.72	17.03	14.55	14.82	16.38	14.13	14.54	6.01	
47.	12.18	12.97	11.09	13.49	13.09	12.66	12.53	12.44	12.71	12.33	12.35	5.08	
48.	15.40	15.92	13.72	15.78	16.46	15.14	16.79	16.25	16.67	16.46	16.54	5.45	
49.	16.09	16.10	14.32	17.54	16.76	15.54	15.74	15.85	16.17	15.57	15.10	5.66	
50.	8.62	8.81	8.33	9.54	9.46	8.93	8.85	8.67	8.77	9.07	8.56	5.18	
51.	5.83	5.41	5.46	6.23	5.80	5.77	6.69	6.05	6.13	7.07	6.71	5.26	
52.	6.99	6.98	6.41	8.03	7.24	7.34	6.99	6.39	6.46	6.56	6.10	6.76	
53.	3.57	3.58	3.75	6.34	4.04	4.17	4.41	4.21	4.42	4.94	5.65	12.04	
54.	11.96	11.82	10.33	9.74	12.19	10.83	11.78	10.83	10.96	11.36	10.07	4.81	

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6/22/76	6/23/76	6/24/76 0805	6/24/76 0905	6/30/76	7/1/76	7/2/76	7/3/76	7/4/76 0900	7/4/76 0900	7/5/76 0858	7/5/76 0858
7.63	6.74	15.88	7.95	7.25	6.89	7.00	8.25	6.17	7.19	7.39	7.31
7.49	5.67	6.52	5.99	6.49	4.51	5.63	6.46	4.97	5.39	5.46	5.52
12.37	12.53	5.88	11.71	12.47	11.38	12.21	12.10	3.55	12.89	9.54	10.46
0.94	0.96	3.96	1.13	0.94	1.04	0.96	0.99	0.99	1.07	1.00	0.96
15.88	15.44	5.41	16.31	16.84	17.64	13.96	15.85	15.46	15.68	14.27	14.55
14.14	14.74	5.91	14.92	15.74	14.01	12.72	14.39	13.87	13.89	13.67	14.16
7.51	8.92	5.58	6.39	6.86	6.14	6.39	8.86	8.55	8.57	1.00	1.00
14.55	15.83	6.48	17.14	15.93	15.37	13.29	15.21	14.53	14.65	13.55	13.92
19.91	20.10	5.76	20.98	22.17	21.51	19.24	22.28	23.70	22.81	19.29	20.14
19.81	17.50	5.79	17.14	17.85	16.36	17.94	19.19	17.19	17.00	17.21	17.23
18.39	16.76	4.29	17.35	16.52	18.15	17.07	18.69	18.71	18.71	17.71	17.34
28.78	29.47	5.93	29.33	33.20	27.74	26.67	29.78	23.91	28.78	28.50	28.27
24.61	25.43	5.04	24.55	24.99	24.16	23.56	26.57	24.57	25.93	24.68	23.33
0.98	1.01	3.47	1.14	0.87	1.01	0.96	1.04	1.03	1.00	0.96	0.00
33.65	33.35	5.85	34.36	34.83	34.60	32.75	34.82	35.38	35.54	33.38	35.14
30.81	30.27	5.42	29.86	29.37	29.99	27.74	31.59	30.78	30.57	29.56	30.07
0.82	0.99	3.17	1.15	0.80	0.85	0.79	0.92	0.00	0.99	0.85	0.94
43.73	43.99	5.30	42.19	43.66	39.28	40.92	44.78	42.69	42.85	42.14	40.70
42.03	42.13	5.26	41.62	42.50	39.10	39.32	43.46	41.63	41.49	41.17	41.25
46.33	46.17	4.86	47.87	46.54	47.53	43.92	47.96	47.66	47.74	44.64	46.87
60.75	56.57	5.55	56.55	59.76	51.35	54.96	60.39	59.59	59.39	57.25	56.09
1.04	1.14	4.14	1.13	0.89	1.03	0.99	1.04	0.99	1.04	0.99	1.05
52.20	51.46	5.50	51.28	53.95	46.46	47.82	52.52	52.10	51.99	53.47	49.11
64.42	65.64	5.66	66.58	70.29	65.28	60.93	66.92	66.57	66.50	28.52	64.57
50.39	49.82	5.13	49.27	51.82	49.05	47.69	50.83	1.03	1.13	0.50	1.09
51.09	53.17	4.69	53.68	53.55	54.17	48.25	55.48	53.85	53.99	27.24	52.67
50.62	49.18	4.80	49.96	50.15	49.33	47.60	51.73	52.00	51.13	19.26	50.42
45.07	45.21	5.53	42.99	45.69	42.55	43.44	45.34	45.17	44.80	18.77	42.89
44.27	42.61	6.07	41.24	42.42	39.35	41.40	42.79	1.04	19.46	2.77	1.10
55.85	54.49	5.54	55.03	56.37	53.96	51.62	55.20	54.93	54.91	0.58	53.08
33.55	32.84	4.35	34.13	33.96	32.69	31.84	34.07	34.22	34.85	7.73	33.84
44.23	42.49	4.95	44.24	43.60	43.18	41.76	45.82	45.75	45.30	10.73	44.01
51.10	49.94	5.19	50.64	51.49	50.10	47.83	51.50	50.63	51.30	4.74	49.24
43.15	42.99	5.14	43.94	44.26	42.13	40.32	43.72	43.92	44.22	6.57	42.64
30.49	31.62	4.67	32.78	32.81	32.89	29.21	34.53	33.90	33.93	14.06	32.57
43.21	41.56	5.05	41.95	42.84	43.21	40.82	45.13	44.35	43.67	3.26	42.03
33.61	33.11	4.78	34.54	33.11	32.67	31.32	36.24	34.75	33.05	9.48	35.68
35.82	34.93	5.57	35.40	36.07	34.77	33.48	34.89	35.84	36.06	25.32	34.33
28.60	28.85	6.41	29.93	29.60	30.04	26.08	26.99	27.67	27.35	12.28	26.02
43.50	39.50	5.56	40.23	43.25	40.25	37.64	45.18	45.14	43.58	33.38	40.92
29.64	13.70	8.23	25.19	26.49	25.49	17.00	37.99	21.55	20.42	13.60	18.12
14.48	15.69	8.03	14.13	18.67	15.07	14.32	17.74	17.98	18.31	10.12	17.47
34.86	34.07	5.91	34.67	35.89	33.41	31.90	34.96	35.15	35.11	7.42	32.52
17.85	18.38	6.19	20.60	18.99	18.24	17.15	18.14	17.64	19.84	5.50	19.40
19.71	20.39	5.16	21.92	20.79	19.58	19.33	32.85	30.87	22.72	10.09	22.71
14.13	14.54	6.01	15.99	16.97	17.28	13.72	25.79	24.32	16.83	3.95	18.19
12.33	12.35	5.00	12.52	12.17	12.53	10.82	18.71	19.92	18.60	4.64	13.21
16.46	16.54	5.45	17.10	17.16	15.85	15.54	13.62	13.95	16.72	16.03	16.43
15.57	15.10	5.66	17.36	16.25	16.38	14.49	14.67	14.53	16.12	14.67	16.00
9.07	8.56	5.10	9.00	8.20	8.31	7.76	12.03	11.12	9.32	8.17	9.19
7.07	6.71	5.26	5.16	6.66	5.33	6.89	6.63	5.75	6.58	6.33	5.69
6.56	6.10	6.76	6.54	5.42	5.33	5.75	7.24	6.91	6.49	5.57	6.42
4.94	5.65	12.04	3.94	4.74	3.77	14.89	4.10	4.67	4.46	4.21	3.74
11.36	10.07	4.81	11.96	11.82	11.64	9.26	11.18	11.59	12.83	10.34	11.21

ROW TRANSMITTER STATUS DATA

ROW #	7/6/76 0850	7/7/76	7/8/76	7/9/76	7/10/76	7/11/76	7/12/76	7/13/76	7/14/76	7/15/76	7/16/76	7/17/76
1.	7.42	7.74	8.36	8.96	8.85	7.54	7.53	9.03	7.57	9.32	8.24	9.79
2.	4.58	4.84	5.24	5.87	5.71	4.56	6.06	7.20	4.09	6.21	6.14	6.66
3.	11.31	9.59	10.53	11.[illegible]	10.43	9.46	10.57	11.78	9.16	12.66	12.14	11.89
4.	1.03	1.03	1.[illegible]	[illegible]	1.07	0.97	1.01	11.43	8.59	11.47	10.42	11.19
5.	14.26	13.98	15.11	15.39	15.74	14.24	15.84	15.55	12.84	17.76	16.53	14.79
6.	13.42	13.22	13.61	13.76	15.82	13.91	14.60	15.67	11.69	15.17	14.39	15.21
7.	0.96	1.00	1.0[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.02	1.05	1.12	0.96
8.	14.45	13.79	15.15	13.34	15.[illegible]	14.72	14.17	15.02	1.[illegible]	16.49	15.98	17.98
9.	19.39	19.38	19.53	18.65	22.88	19.14	20.52	23.54	17.40	21.83	21.21	21.11
10.	16.37	15.82	17.61	15.42	19.03	17.86	19.74	24.54	15.61	20.28	20.73	22.02
11.	18.47	19.59	18.74	21.44	18.88	19.89	18.85	22.20	15.84	22.39	20.75	19.19
12.	27.61	1.04	1.01	[illegible]	1.09	1.00	0.96	[illegible]	1.06	30.21	29.82	29.85
13.	23.74	23.14	23.36	23.24	23.60	23.28	24.17	30.73	21.30	31.83	30.98	31.78
14.	0.99	1.03	1.[illegible]	[illegible]	[illegible]	1.11	[illegible]	36.65	28.91	36.39	36.64	36.67
15.	33.40	34.61	34.59	34.74	36.40	33.96	37.15	41.67	33.22	37.83	36.41	35.85
16.	29.20	28.82	28.83	31.17	30.14	28.37	30.87	31.93	26.82	30.99	30.98	33.52
17.	1.03	1.08	1.[illegible]	[illegible]	1.07	1.00	[illegible]	[illegible]	1.01	1.10	1.11	0.89
18.	41.24	40.39	41.40	43.83	43.77	40.99	45.14	47.10	37.36	44.64	44.02	45.89
19.	39.59	40.97	41.60	43.32	45.56	40.00	42.71	49.43	37.45	44.82	43.41	44.49
20.	45.43	45.57	47.25	46.21	47.40	44.35	46.60	52.89	40.14	50.42	48.64	50.62
21.	57.18	54.04	55.49	56.54	56.94	53.78	59.39	65.02	46.73	57.77	56.92	58.89
22.	0.92	0.96	1.0[illegible]	[illegible]	1.02	1.01	[illegible]	34.76	27.53	32.74	33.99	33.81
23.	48.14	46.[illegible]	49.49	49.80	51.65	48.55	53.05	56.89	42.40	51.64	50.74	53.71
24.	63.89	59.61	62.52	62.61	72.92	59.74	65.57	71.72	61.64	71.07	67.00	76.57
25.	1.00	1.01	1.01	[illegible]	[illegible]	0.96	[illegible]	0.[illegible]	1.13	1.17	1.10	0.96
26.	52.00	[illegible]	1.02	[illegible]	1.04	1.03	0.[illegible]	[illegible]	1.07	56.16	54.64	0.99
27.	49.77	49.14	51.21	51.85	69.89	47.[illegible]	48.60	54.21	42.97	52.43	51.86	49.98
28.	42.41	40.[illegible]	41.81	43.32	42.32	40.00	42.90	47.64	35.58	44.42	43.23	43.57
29.	0.98	40.53	41.26	42.94	42.64	40.58	42.74	0.69	34.74	43.10	42.79	43.58
30.	52.85	51.25	52.99	54.34	54.96	53.43	55.3[illegible]	60.06	46.88	56.66	55.35	55.98
31.	33.42	32.63	34.35	33.08	35.14	34.80	35.5[illegible]	38.38	29.03	35.60	34.14	34.98
32.	44.02	43.34	43.73	41.46	42.47	44.25	43.80	45.79	37.34	46.27	45.83	45.52
33.	48.64	48.05	48.45	48.48	51.12	49.07	52.20	55.58	43.53	53.04	51.69	51.92
34.	42.75	41.96	42.94	42.44	43.78	43.40	44.79	45.58	37.76	46.04	44.60	44.08
35.	32.38	31.39	32.89	31.46	31.94	33.03	33.78	39.65	28.89	34.49	33.82	34.42
36.	41.88	41.66	43.82	43.61	44.11	42.08	44.24	47.42	37.97	45.71	44.14	45.11
37.	33.49	34.83	32.57	32.35	32.77	33.09	33.67	36.10	29.14	32.62	33.28	34.59
38.	34.51	34.09	34.75	35.57	35.40	34.54	35.21	38.14	30.37	37.76	35.64	34.66
39.	25.44	26.15	27.56	25.31	26.39	26.99	32.12	30.49	21.32	30.03	27.92	26.58
40.	39.82	39.60	42.26	44.30	41.08	41.19	51.86	47.94	40.05	42.62	43.49	50.67
41.	28.15	19.36	20.48	31.06	20.75	32.46	28.14	48.47	32.03	35.92	35.08	34.78
42.	21.25	17.36	14.84	23.07	19.65	15.11	13.72	11.71	9.43	15.98	12.77	11.98
43.	33.24	32.74	34.27	35.74	34.67	33.06	35.66	37.92	29.95	34.74	33.28	35.07
44.	16.44	18.60	17.[illegible]	17.74	18.74	19.75	19.[illegible]	18.56	15.22	21.00	19.73	18.66
45.	29.17	28.43	18.96	19.06	20.62	21.51	20.10	22.65	17.29	23.11	22.73	24.44
46.	26.01	16.60	16.78	16.64	16.74	17.46	16.28	15.71	12.76	16.65	16.05	16.28
47.	19.58	12.64	12.12	11.93	12.17	12.17	13.78	14.56	11.59	14.02	13.33	13.78
48.	13.56	15.76	16.22	15.93	17.03	15.85	16.[illegible]	17.75	13.98	17.82	16.43	16.64
49.	14.60	16.08	16.85	14.82	16.27	15.87	15.[illegible]	16.99	14.[illegible]	18.01	17.29	16.95
50.	13.56	6.14	6.21	5.18	5.48	5.84	4.74	5.78	5.24	6.16	6.05	6.30
51.	5.37	5.96	5.63	7.27	7.78	6.37	6.81	8.69	1.[illegible]	1.02	1.16	0.91
52.	6.52	6.03	5.73	5.64	5.77	5.82	5.93	6.85	5.[illegible]	5.89	6.08	6.74
53.	4.14	3.92	4.48	5.07	4.49	3.64	6.50	6.67	3.76	5.29	4.11	5.28
54.	10.44	11.27	10.94	10.52	11.16	10.91	9.97	10.33	10.57	12.66	11.52	11.81

7/14/76	7/15/76	7/16/76	7/17/76	
7.57	9.32	8.24	9.79	
4.09	6.21	6.14	6.66	
9.16	12.66	12.14	11.89	
8.59	11.47	10.42	11.19	ROW P.S. S/N 114 FAILURE
12.84	17.76	16.53	14.79	
11.59	15.17	14.39	15.21	
1.24	1.05	1.12	0.96	Predriver FAILURE
12.38	16.49	15.98	17.98	
17.40	21.83	21.21	21.11	
15.81	20.28	20.73	22.02	
15.84	22.39	20.75	19.19	
2.26	30.21	29.82	29.85	ROW P.S S/N 36 FAILURE
21.38	31.83	30.98	31.78	
29.91	36.39	36.64	36.67	ROW P.S. S/N 5 FAILURE
37.22	37.83	36.41	35.85	
26.82	30.99	30.98	33.52	
1.21	1.10	1.11	0.89	ROW TRANSMITTER 17 FAILED, PREDRIVER
37.39	44.64	44.02	45.89	
37.45	44.82	43.41	44.49	
48.14	50.42	48.64	50.62	
46.73	57.77	56.92	58.89	
27.53	32.74	33.99	33.01	ROW P.S. S/N 55 FAILURE
42.48	51.64	50.74	53.71	
61.64	71.07	67.00	76.57	
1.12	1.17	1.10	0.96	Predriver FAILURE
1.07	56.16	54.64	0.99	ROW P.S. S/N 49 Failure
42.97	52.43	51.86	49.98	
35.59	44.42	43.23	43.57	
34.74	43.10	42.79	43.58	
46.88	56.66	55.35	55.90	
29.03	35.60	34.14	34.98	
37.34	46.27	45.83	45.52	
43.53	53.04	51.69	51.92	
37.76	46.04	44.60	44.08	
28.89	34.49	33.82	34.42	
37.97	45.71	44.14	45.11	
29.14	32.62	33.28	34.59	
30.37	37.76	35.64	34.66	
21.32	30.03	27.92	26.58	
48.88	42.62	43.49	50.67	
32.83	35.92	35.08	34.70	
9.43	15.98	12.77	11.98	
29.95	34.74	33.28	35.07	
15.22	21.00	19.73	18.66	
17.29	23.11	22.73	24.44	
12.76	16.65	16.05	16.28	
11.59	14.02	13.33	13.72	
13.98	17.82	16.43	16.64	
14.4	18.01	17.29	16.95	
5.24	6.16	6.05	6.36	
1.03	1.02	1.15	0.96	PREDRIVER FAILURE
5.83	5.89	6.08	6.74	
3.76	5.29	4.11	5.22	
12.57	12.66	11.52	11.89	

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Rosa Receiver Performance Data (Amplitude)

	6/21/76			6/22/76			6/23/76			6/24/76			6/25/76			6/26/76		
	Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E
1	15	13	6	13	12	10	9	6	5	12	11	10	12	13	7	13	12	9
2	14	13	15	13	10	14	9	16	8	14	9	##	13	11	13	13	12	14
3	13	14	12	12	13	10	12	16	7	3	12	14	12	14	10	3	15	12
4	13	10	9	11	9	9	9	13	6	12	9	9	11	9	9	13	10	10
5	17	14	20	13	12	15	10	15	12	13	13	15	14	13	16	15	14	21
6	17	14	15	15	13	14	9	15	9	16	12	15	15	13	14	16	13	16
7	19	19	19	17	16	18	12	20	13	17	16	20	18	18	18	19	18	19
8	20	19	20	17	14	20	14	19	15	18	13	21	14	17	16	13	17	18
9	20	23	18	20	19	19	14	23	12	22	19	19	20	22	17	22	21	19
10	25	23	17	22	19	15	14	23	10	23	18	17	19	21	14	22	21	16
11	27	22	27	23	20	25	15	24	19	25	18	27	24	22	26	25	21	29
12	37	38	28	29	29	26	22	33	20	35	28	29	34	32	25	33	33	29
13	27	29	33	24	24	29	17	29	24	27	23	35	27	28	30	27	28	33
14	36	26	28	31	28	27	22	27	19	32	22	29	33	26	28	33	26	30
15	39	39	30	34	34	39	23	37	27	36	32	42	35	37	39	35	37	41
16	35	27	29	30	29	28	21	29	19	34	23	28	31	27	28	31	27	29
17	40	35	26	36	32	29	25	36	20	36	28	30	37	36	27	37	36	31
18	52	36	32	40	33	33	34	33	22	49	32	31	48	37	32	47	37	34
19	48	38	39	35	35	36	31	44	30	43	32	42	43	41	41	39	36	38
20	47	41	32	41	36	33	29	43	24	44	34	##	42	41	##	43	39	34
21	45	47	62	40	40	58	29	49	45	42	38	60	43	47	58	42	47	62
22	54	46	30	46	39	32	33	47	19	48	36	31	48	45	29	50	44	33
23	51	46	43	40	40	42	34	50	30	47	38	42	44	43	##	46	44	42
24	53	47	52	45	41	51	36	49	37	48	41	53	49	45	50	49	46	53
25	54	46	46	47	43	45	33	47	33	48	43	42	48	42	43	51	45	49
26	43	46	35	36	41	35	27	48	26	37	41	##	39	47	36	39	45	40
27	43	39	44	36	34	41	26	41	31	38	35	43	39	39	42	39	39	45
28	49	52	53	43	45	49	29	55	##	45	47	52	44	50	50	47	50	54
29	38	39	30	33	34	32	25	42	23	33	43	32	34	33	31	35	38	35
30	45	47	48	39	41	46	26	49	33	39	36	46	41	46	44	42	44	50
31	48	50	42	42	44	42	32	54	31	43	41	42	43	49	41	45	48	45
32	46	46	48	43	41	48	31	50	34	42	41	47	44	47	47	46	45	50
33	44	37	49	39	32	47	27	39	36	39	29	46	39	36	46	41	34	49
34	50	36	39	40	33	39	31	39	26	42	30	36	46	36	37	49	37	42
35	47	43	33	37	37	33	26	46	25	41	35	34	41	41	31	42	42	37
36	37	36	34	41	38	35	##	38	23	29	27	32	33	35	33	35	35	33
37	43	42	27	37	37	28	26	44	28	34	27	26	38	41	25	40	41	30
38	26	21	22	22	19	21	15	22	16	22	14	21	22	21	20	24	20	23
39	42	33	34	35	28	33	25	35	23	32	22	31	34	23	30	37	32	36
40	31	32	31	26	27	30	19	33	21	25	19	26	25	32	28	29	29	32
41	7	24	21	6	21	21	4	24	13	6	16	17	6	32	19	6	24	22
42	27	20	22	24	18	22	15	20	16	21	14	19	22	20	20	25	20	22
43	30	24	30	25	21	29	18	26	22	22	16	27	24	24	27	28	24	31
44	21	23	23	19	18	22	12	21	16	18	13	22	20	19	21	19	20	23
45	20	19	24	18	15	20	12	19	14	15	11	21	17	17	23	17	17	25
46	21	17	24	18	15	22	12	19	16	17	11	22	20	16	24	20	16	24
47	14	15	21	12	13	19	8	14	14	13	8	19	15	14	20	13	14	21
48	14	14	21	12	12	21	8	15	13	12	9	20	13	13	21	13	14	22
49	14	14	13	11	12	13	8	14	9	12	9	11	13	15	13	13	13	15
50	12	12	15	9	11	16	7	14	11	10	9	17	11	13	17	12	13	18
51	10	9	14	8	8	13	6	10	9	9	6	13	9	9	14	10	9	13
52	11	12	14	9	10	13	7	11	9	10	7	13	10	11	14	11	10	14
53	14	9	10	12	8	11	7	11	7	12	6	11	13	9	11	12	10	12
54	6	7	9	7	6	10	5	8	7	8	4	11	8	8	10	9	9	9

6/25/76			6/26/76			6/27/76			6/28/76			6/29/76			6/30/76		
Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E	Σ	A	E
13	7		13	12	9	18	13	11	8	13	6	12	9	8	13	8	8
11	13		13	12	14	15	12	19	9	12	9	14	7	12	14	6	15
14	10		3	15	12	2	15	13	1	15	7	1	9	8	2	9	11
9	9		13	10	10	14	10	11	12	9	9	8	6	6	10	5	9
13	16		15	14	21	17	14	22	16	14	21	10	8	13	13	8	18
13	14		16	13	16	17	13	16	17	13	16	11	9	9	13	8	13
18	18		19	18	19	22	20	24	19	19	20	14	12	15	18	12	18
17	16		13	17	18	23	18	28	13	18	13	10	12	11	16	10	12
22	17		22	21	19	24	23	23	22	22	21	15	15	16	19	15	17
21	14		22	21	16	24	23	18	24	22	18	15	15	11	20	14	15
22	26		25	21	29	27	22	31	26	22	29	17	14	19	23	13	24
32	25		33	33	29	38	34	32	36	34	31	23	22	19	31	21	27
28	30		27	28	33	32	29	38	30	28	37	17	19	22	25	17	30
26	28		33	26	30	38	28	34	35	26	30	24	18	19	31	17	26
37	39		35	37	41	40	39	45	39	33	42	25	25	27	33	25	36
27	28		31	27	29	35	29	33	34	28	31	23	18	19	29	17	26
36	27		37	36	31	41	37	33	39	37	33	26	24	19	34	22	27
37	32		47	37	34	52	38	39	51	37	35	35	24	23	45	22	31
41	41		39	36	38	43	40	46	47	41	45	28	25	25	37	27	34
41	32		43	39	34	48	41	38	46	40	33	30	25	22	44	26	34
47	58		42	47	62	47	48	68	44	47	64	31	34	45	42	31	62
45	29		50	44	33	55	46	38	52	37	34	34	31	15	49	28	32
43	33		46	44	42	53	45	47	48	46	42	34	30	28	45	30	40
45	50		49	46	53	55	49	58	53	48	57	39	32	37	50	30	52
42	43		51	46	49	54	45	54	52	46	50	34	30	34	48	27	47
47	36		39	45	40	44	49	44	42	47	43	28	33	26	39	31	41
39	42		39	39	45	45	41	50	42	40	50	30	27	33	40	25	49
50	50		47	50	54	50	52	58	48	53	56	31	33	36	43	33	49
33	31		35	38	35	38	40	40	37	41	37	24	26	22	33	26	31
46	44		42	44	50	45	47	53	45	47	52	30	29	33	42	29	48
49	41		45	48	45	48	49	50	47	49	47	12	34	32	46	33	47
47	47		46	45	50	49	49	54	48	46	52	32	31	34	45	31	48
36	46		41	34	49	45	36	53	46	37	53	27	22	37	39	23	48
38	37		49	37	42	52	42	46	51	39	44	33	25	25	44	25	33
41	31		42	42	37	42	43	40	43	42	39	27	28	24	36	27	31
35	33		35	35	33	38	36	40	37	33	39	24	25	24	31	24	32
41	25		40	41	30	43	42	33	41	43	33	21	26	19	25	27	18
21	23		24	20	23	26	22	26	25	21	24	15	15	14	14	12	15
23	30		37	32	36	40	34	38	40	33	33	25	20	21	23	20	21
32	28		29	29	32	32	31	36	30	32	43	20	19	21	18	18	20
32	19		6	24	22	7	23	22	7	25	22	5	16	12	3	13	13
28	20		25	20	24	26	21	26	26	21	24	15	13	16	15	12	16
24	27		28	24	31	29	26	24	28	25	33	13	15	13	17	15	19
19	21		19	20	23	22	21	25	20	20	24	12	13	15	12	11	15
17	23		17	17	25	19	19	27	18	18	26	14	12	18	12	12	15
16	24		23	16	24	21	18	26	20	18	25	15	12	15	12	11	15
14	23		13	14	21	15	14	24	14	15	22	6	9	14	8	9	13
13	21		13	14	22	14	15	22	13	14	23	5	10	14	8	9	12
15	13		13	13	15	14	14	15	13	13	14	4	8	9	8	8	9
13	17		12	13	18	11	13	19	12	12	20	7	9	10	8	8	12
9	14		10	9	13	11	10	14	10	10	14	6	6	8	6	5	8
11	14		11	10	14	11	12	15	11	10	16	7	7	9	7	7	9
9	11		12	10	12	14	10	12	13	13	11	8	6	8	7	7	7
8	10		9	7	10	9	8	11	8	6	11	8	5	8	5	5	7

Row Receiver Performance (amplitude)

Row	7/1/76 Σ	A	E	7/2/76 Σ	A	E	7/3/76 Σ	A	E	7/4/76 Σ	A	E	7/5/76 Σ	A	E	7/6/76 Σ	A	E	7/7 Σ	A
1	9	14	9	9	8	6	12	9	7	8	8	5	14	13	9	9	8	6	12	16
2	9	9	10	9	7	10	11	9	11	9	7	10	14	3	15	8	7	9	12	15
3	2	11	9	1	9	7	2	13	7	2	9	7	2	3	12	2	9	7	2	18
4	8	6	7	7	6	6	9	6	6	9	5	5	13	3	9	7	6	5	10	11
5	10	10	14	9	9	14	11	10	14	9	8	12	14	7	21	9	9	14	14	18
6	13	10	13	9	9	10	11	10	12	10	9	11	17	8	15	10	9	10	16	17
7	14	15	17	12	13	14	15	15	15	13	13	13	19	12	20	13	13	13	16	24
8	9	13	11	14	11	17	16	13	17	8	11	10	17	14	21	13	11	16	13	19
9	15	18	17	16	15	15	17	17	16	15	14	13	22	22	20	15	15	13	20	28
10	18	17	13	14	15	11	17	16	13	21	14	16	22	22	18	15	13	10	20	28
11	19	17	24	16	14	28	18	16	23	24	14	28	25	22	28	16	13	20	24	27
12	25	27	28	23	23	28	27	27	22	31	23	26	32	35	29	23	23	19	32	42
13	18	21	27	18	19	24	28	28	28	17	18	24	24	30	30	17	17	23	25	35
14	26	27	27	23	19	20	27	21	23	21	18	17	32	28	28	22	18	19	31	33
15	28	29	31	25	26	27	28	28	33	24	25	27	35	36	40	24	25	27	34	46
16	25	21	25	22	18	21	23	21	22	23	17	21	30	28	28	23	18	21	30	34
17	28	28	25	25	25	22	28	26	23	25	24	21	31	37	24	26	23	20	35	45
18	39	29	26	33	25	24	39	27	26	34	23	23	52	39	35	34	24	22	45	46
19	32	28	29	31	28	30	31	29	29	28	24	25	49	37	46	28	25	27	37	47
20	34	31	30	30	28	24	34	31	27	29	27	24	50	42	38	29	27	24	32	52
21	34	39	51	31	34	47	35	37	51	31	32	45	47	49	68	31	33	46	40	57
22	38	36	24	35	32	23	38	36	24	33	30	21	55	46	36	34	30	21	45	55
23	38	35	33	32	31	30	37	34	33	32	31	28	51	46	48	34	30	30	44	55
24	43	38	46	36	33	39	41	36	42	35	32	38	56	48	59	36	32	39	47	57
25	37	35	39	34	31	37	39	31	40	33	30	37	56	46	55	34	31	36	47	43
26	23	35	24	27	33	28	26	36	28	28	31	28	43	45	45	28	31	27	37	52
27	32	33	37	28	29	33	33	31	36	29	28	33	44	38	50	28	28	31	37	48
28	35	39	43	31	35	40	36	40	43	31	34	38	50	50	58	30	33	36	43	50
29	27	31	24	25	27	25	28	31	26	24	27	23	39	38	39	24	26	23	32	47
30	33	35	39	30	32	35	32	43	37	29	30	34	46	45	54	29	30	35	39	55
31	36	39	37	33	33	34	36	38	43	32	34	30	49	48	51	32	34	31	42	59
32	36	37	40	33	33	38	36	37	39	32	31	35	50	45	54	31	31	34	42	56
33	29	27	42	27	24	36	31	26	41	27	24	37	46	36	55	26	23	37	38	43
34	38	29	32	34	27	30	38	30	32	32	25	27	52	38	45	32	25	27	42	46
35	31	33	29	26	29	28	31	33	28	27	28	27	43	40	40	27	29	23	39	21
36	26	29	30	24	24	26	27	28	28	23	24	25	38	35	42	24	25	26	31	45
37	33	33	24	28	29	20	30	32	22	26	28	21	43	40	34	26	27	19	36	51
38	17	15	19	17	13	17	19	15	19	15	12	16	25	20	26	15	13	15	21	26
39	28	26	26	26	21	26	28	24	26	25	20	26	40	32	39	25	22	23	34	40
40	21	23	24	20	21	21	22	21	23	19	19	21	32	32	53	19	26	21	25	35
41	6	18	17	4	15	15	5	17	15	5	15	13	7	25	25	5	21	15	7	31
42	19	15	18	16	13	17	18	14	18	15	13	17	28	21	25	16	17	16	23	26
43	21	18	24	19	17	22	21	16	24	19	16	22	30	25	35	19	20	21	25	30
44	15	15	17	13	14	16	15	15	18	12	13	16	22	20	26	12	15	15	18	25
45	15	14	19	13	13	18	11	14	14	11	12	14	17	19	26	8	14	8	15	23
46	14	14	18	13	13	17	15	14	17	13	11	16	4	19	26	13	15	15	17	22
47	10	10	17	9	9	15	10	10	16	8	9	14	15	15	23	9	8	13	12	18
48	10	11	17	9	10	15	10	11	16	8	9	14	14	15	24	8	9	14	12	15
49	10	10	11	9	8	10	9	10	10	8	8	9	15	14	16	8	8	10	12	16
50	7	9	13	7	8	12	8	10	13	8	8	12	12	13	21	6	8	12	9	16
51	7	7	10	6	7	10	7	7	11	6	6	9	10	10	15	6	6	8	9	11
52	9	9	13	8	7	9	8	9	10	7	8	10	12	12	16	7	7	9	9	15
53	9	8	7	9	7	5	9	8	8	7	7	8	13	10	12	9	6	6	12	12
54	6	5	9	6	5	7	7	5	7	6	5	8	10	8	11	6	4	5	8	9

2

7/76 E	7/6/76 Σ	A	E	7/7/76 Σ	A	E	7/8/76 Σ	A	E	7/9/72 Σ	A	E	7/10/76 Σ	A	E	7/11/76 Σ	A	E
9	9	8	6	12	16	10	9	14	6	8	11	4	8	13	8	8	12	5
15	8	7	9	12	15	15	10	11	12	9	10	8	9	9	12	9	10	11
12	2	9	7	2	18	17	1	14	12	1	13	7	0	14	11	1	15	12
9	7	6	5	10	11	7	9	8	5	7	8	4	0	7	7	7	9	5
21	9	9	14	14	18	23	10	14	15	10	12	13	10	13	16	10	12	14
15	10	9	10	16	17	16	11	10	12	9	13	8	9	13	12	11	13	9
20	13	13	13	16	24	23	14	20	18	13	18	11	13	18	18	13	17	14
41	13	11	16	13	19	18	9	17	13	13	15	13	13	15	16	12	14	15
30	15	15	13	20	28	21	10	20	17	14	21	10	10	21	17	14	21	13
18	15	15	10	22	28	18	16	21	14	15	20	8	15	21	15	15	21	12
38	16	13	20	24	27	29	17	20	24	15	19	17	15	19	24	15	19	19
29	23	23	19	32	42	33	25	33	25	21	32	23	22	32	25	22	32	20
30	17	17	23	25	35	38	19	26	30	18	24	23	17	24	20	16	26	24
26	22	18	19	31	33	28	26	27	24	24	25	21	21	25	22	23	26	18
30	24	25	27	34	46	42	25	36	33	23	34	33	25	34	33	24	35	28
28	23	18	21	30	34	28	24	26	24	21	25	22	22	26	26	21	26	18
24	26	23	20	35	45	33	27	33	26	24	32	23	25	33	26	24	34	21
35	34	24	22	45	46	28	23	35	33	33	32	22	34	32	25	33	34	17
46	28	25	27	37	47	41	33	41	35	30	37	32	27	33	31	26	35	26
38	29	27	24	42	50	36	31	39	28	29	37	26	26	35	30	29	37	22
56	31	33	46	48	57	66	33	49	56	28	44	52	29	44	55	30	47	46
36	34	30	21	45	55	32	35	44	25	31	42	23	32	43	27	33	43	19
48	34	30	30	44	55	44	33	45	37	31	41	33	31	42	35	33	43	28
39	36	32	39	47	57	55	37	47	46	33	43	42	33	43	45	34	45	38
55	34	31	36	47	43	48	36	43	42	31	40	40	33	40	41	33	34	33
45	28	31	27	37	55	45	21	46	32	25	41	34	24	43	35	27	44	30
50	28	22	31	37	48	48	31	40	39	27	37	36	27	36	39	27	37	35
58	30	43	36	43	50	57	33	49	47	29	45	43	20	47	45	30	47	40
39	24	26	23	32	47	38	25	39	32	24	36	29	24	36	31	24	38	25
54	29	30	35	39	55	51	30	44	43	27	41	40	23	44	41	28	43	37
51	32	34	31	42	59	49	34	49	43	30	44	39	31	45	42	31	46	34
54	31	31	34	42	56	51	33	45	42	30	42	35	30	42	42	31	45	36
55	26	23	37	38	43	51	28	34	44	25	31	41	27	31	43	27	33	37
45	32	25	27	42	46	37	34	38	30	32	35	30	32	36	34	33	36	25
40	27	29	13	39	51	38	32	42	31	25	38	31	27	38	30	28	38	23
42	24	25	26	31	45	40	25	37	35	23	33	30	22	33	32	24	34	26
34	26	27	19	36	51	34	28	41	27	25	38	25	25	38	27	26	40	22
26	15	13	15	21	26	24	16	20	19	14	17	19	15	17	20	15	18	15
39	25	32	23	34	40	34	27	33	28	24	29	25	24	28	26	25	31	24
53	19	26	21	25	35	31	19	29	26	18	27	25	18	25	20	19	25	21
25	5	21	15	7	31	27	5	23	20	5	22	18	4	22	19	5	23	19
25	16	17	16	23	26	23	17	19	19	15	16	18	15	17	19	16	19	15
35	19	20	21	25	30	32	20	24	25	13	21	23	17	28	25	18	24	21
26	12	15	15	18	25	25	13	19	20	12	18	16	11	17	19	13	19	16
26	8	14	8	15	23	26	13	19	22	11	16	20	12	17	20	12	16	18
26	13	15	15	17	22	24	14	17	19	12	16	17	11	15	17	13	16	16
23	9	8	13	12	18	22	9	13	16	8	15	16	6	12	16	8	13	16
24	8	9	14	12	19	23	9	14	19	8	13	17	8	13	17	9	13	16
16	8	8	10	12	16	15	9	12	12	7	12	11	7	12	12	7	12	9
21	6	8	12	9	16	19	8	13	15	8	12	14	7	12	15	7	12	12
15	6	6	8	9	11	15	6	9	11	6	9	10	6	9	11	6	9	10
16	7	7	9	9	15	16	8	12	12	6	10	11	6	11	11	7	10	9
12	9	8	6	12	12	10	8	10	8	8	9	8	8	12	9	8	8	5
31	6	43	5	8	9	10	16	7	7	6	7	7	6	7	8	6	7	6

1

Row Phase Data (Σ_1)

Row	Ψ_{21}	Ψ_{22}	Ψ_{23}	Ψ_{24}	Ψ_{25}	Ψ_{26}	Ψ_{27}	Ψ_{28}	Ψ_{29}	Ψ_{30}	Ψ_1	Ψ_2	Ψ_3	Ψ_4	Ψ_5	Ψ_6	Ψ_7	Ψ_8	Ψ_9
1	117	117	180	90	129	120	123	153	115	126	156	161	163	166	119	161	118	174	1
2	25	27	90	#4	33	27	#33	77	29	#39	71	71	#85	77	29	76	29	84	#
3	13		90	289	0	0	27	90	90	27	27	45	63	90	27	27	0	93	1
4	221	222	257	#80	207	203	205	159	249	214	243	247	257	256	203	247	222	270	2
5	38	92	143	69	#90	90	90	86	139	103	131	135	142	135	66	135	20	146	1
6	329	328	24	308	337	330	336	329	15	343	9	#19	20	#17	332	17	330	20	1
7	252	257	309	232	264	258	260	255	364	273	289	299	307	323	255	303	254	304	3
8	133	126	176	113	141	132	127	153	174	135	193	168	173	132	126	167	138	193	1
9	53	53	110	32	#63	54	#58	52	101	#69	92	#97	103	105	54	101	55	107	1
10	312	310	0	290	319	311	318	312	0	325	354	#0	0	319	311	8	310	4	
11	136	135	243	164	194	187	193	184	234	198	227	232	238	192	185	232	185	243	2
12	136	138	157	85	114	106	113	104	152	118	149	149	#56	113	106	149	105	156	1
13	#0	355	50	334	#2	356	0	352	#43	7	52	36	43	47	355	38	355	51	
14	264	264	315	242	270	265	270	263	312	277	310	305	313	315	265	308	264	317	3
15	140	142	192	122	147	142	145	140	187	153	178	180	193	192	142	185	142	194	1
16	23	25	82	3	#31	#24	#30	22	72	38	#69	71	76	77	23	72	23	81	#
17	310	310	0	288	314	308	312	306	351	318	348	349	354	358	311	353	307	#0	3
18	215	214	270	193	222	215	219	213	253	225	260	258	267	267	213	263	214	270	2
19	142	141	152	82	109	100	106	100	145	112	141	143	149	152	99	145	121	153	1
20	353	353	47	331	0	353	0	351	39	3	33	37	#44	45	352	40	353	46	
21	239	240	296	219	248	240	246	239	287	252	285	285	292	293	239	287	240	293	2
22	145	145	197	125	153	144	150	143	196	155	187	187	192	192	144	188	144	196	1
23	46	48	105	26	56	48	54	48	97	61	95	94	101	102	46	95	46	103	1
24	292	291	342	270	297	290	293	287	334	299	328	330	337	337	288	334	290	341	3
25	184	184	241	166	192	184	188	183	232	196	230	231	236	236	183	234	182	238	2
26	119	123	169	98	126	117	121	115	161	125	173	159	167	163	114	161	115	169	1
27	153	152	202	231	261	252	256	249	298	263	294	293	302	301	249	298	251	303	3
28	152	154	206	133	159	152	156	150	197	162	193	193	200	201	150	195	151	203	2
29	57	58	119	45	75	65	69	65	111	78	#05	109	115	117	63	109	64	118	1
30	301	302	352	282	307	299	304	298	345	308	338	338	346	346	297	342	299	349	3
31	234	233	286	212	239	232	235	229	279	240	275	273	281	282	228	277	232	283	2
32	134	135	156	86	113	103	107	102	148	113	143	143	150	153	102	147	104	153	1
33	1	0	54	339	6	357	3	355	#43	7	48	#41	48	47	356	42	0	51	
34	284	283	336	263	296	287	291	285	327	299	321	327	334	338	284	324	282	332	3
35	176	176	225	156	180	173	175	169	216	183	213	212	220	221	168	216	174	225	2
36	63	62	118	42	69	61	67	59	109	75	103	104	111	112	59	107	63	114	1
37	310	318	5	309	324	318	318	312	# 2	7	356	0	0	2	312	356	314	6	
38	203	203	255	182	209	199	203	196	248	258	243	242	245	251	196	247	198	253	2
39	123	123	174	105	130	121	126	120	169	175	163	162	170	169	120	164	122	174	1
40	42	42	96	21	48	40	41	39	87	96	85	90	93	90	41	92	45	#97	
41	310	309	0	287	321	309	315	315	0	0	341	0	#0	11	304	11	315	0	
42	184	180	235	169	193	178	187	178	230	238	227	222	234	230	178	228	180	234	2
43	94	#96	144	75	102	#88	96	90	135	142	131	133	139	137	86	133	90	143	1
44	344	345	33	324	351	342	347	343	29	35	23	#23	32	29	339	25	341	30	
45	233	233	289	212	239	238	235	229	279	284	274	278	287	286	227	315	238	283	2
46	146	146	184	128	151	143	146	141	189	194	180	188	191	189	333	180	144	196	1
47	20	19	76	0	87	17	19	12	63	76	61	58	68	69	15	56	19	71	
48	282	279	324	270	287	274	282	274	319	330	319	319	323	324	274	324	279	328	3
49	196	200	256	180	203	193	196	193	240	249	241	238	246	243	191	243	194	251	2
50	71	71	124	53	80	65	75	65	113	120	113	113	120	122	61	117	66	120	1
51	331	332	9	315	336	326	333	331	19	19	8	9	8	19	326	8	328	19	
52	238	238	286	217	248	232	243	232	278	293	283	277	284	286	235	286	238	291	2
53	155	155	203	132	157	151	155	150	194	203	193	193	199	203	150	193	155	207	2
54	36	34	90	0	45	41	#41	27	#88	79	65	90	82	81	37	90	45	90	

2

4/27	4/28	4/29	4/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17
123	153	115	126	156	161	163	166	119	161	119	174	166	173	155	161	114	131	126	139	156
*33	77	29	*39	71	71	*85	77	29	76	29	84	*84	90	71	71	27	45	45	54	58
27	90	90	27	27	45	63	90	27	27	0	90	90	90	45	90	269	27	45	0	333
285	159	249	214	243	247	257	256	283	247	282	270	254	249	247	248	194	223	214	225	229
90	86	139	103	131	135	142	135	86	135	90	146	143	140	127	131	81	109	101	109	122
336	329	15	343	9	*19	20	*17	332	17	330	20	19	*24	5	11	323	343	341	350	5
260	255	364	273	299	299	307	303	255	303	254	304	303	313	293	293	245	270	275	274	287
127	153	174	135	193	168	173	180	126	167	138	193	171	176	161	164	126	141	135	180	207
*58	53	101	*69	90	*97	103	105	54	101	59	107	106	112	*90	95	*48	74	69	*65	86
318	312	0	325	354	0	0	319	311	8	310	4	0	4	349	349	309	326	*26	325	346
193	184	234	198	227	232	238	192	185	232	185	243	238	243	229	225	*60	198	199	196	216
113	104	152	113	149	149	156	113	106	149	165	156	156	157	142	143	57	117	120	116	138
0	352	*43	7	32	36	43	47	355	38	355	51	60	62	33	43	353	10	16	13	36
270	263	312	277	310	305	313	315	265	308	264	317	315	317	301	325	256	278	279	272	299
145	140	187	153	178	180	193	192	142	189	142	194	190	195	180	180	135	155	153	151	173
*30	22	72	38	*69	71	76	77	23	72	23	81	*79	80	66	63	*44	34	38	33	57
312	306	351	318	348	349	354	359	311	353	307	* 0	355	0	346	344	298	318	322	317	336
219	213	253	225	260	258	267	267	213	263	214	270	267	270	254	255	207	225	229	223	249
106	100	140	112	141	143	149	152	99	145	121	153	150	156	138	139	95	115	116	111	133
0	351	39	3	33	37	*41	45	352	46	353	46	43	48	31	32	346	4	6	2	24
246	239	287	252	285	285	292	293	239	287	240	293	290	290	279	277	233	250	253	250	272
150	143	196	155	187	187	192	192	144	188	144	196	193	196	180	180	139	152	158	152	175
54	48	97	61	95	94	101	102	46	95	46	103	105	105	90	90	42	63	64	60	83
293	287	334	299	328	330	337	337	288	334	290	341	339	341	327	327	292	302	303	299	318
188	183	232	196	230	231	236	236	183	234	182	238	235	237	221	223	177	196	195	196	216
121	115	161	126	173	159	167	163	114	161	115	163	164	166	151	152	136	128	130	123	143
256	249	298	263	294	293	302	301	249	298	251	303	300	303	289	289	246	264	266	262	282
156	150	197	162	193	193	200	201	150	195	151	203	202	204	191	189	142	163	164	161	180
69	65	111	78	105	109	115	117	63	109	64	118	117	120	104	104	56	78	80	76	94
304	298	345	308	339	338	346	346	297	342	299	349	347	350	335	335	298	310	313	309	327
235	229	279	240	275	273	281	282	238	277	238	283	281	285	272	272	219	241	246	242	260
107	102	148	113	143	143	150	150	102	147	104	153	151	152	140	140	93	111	115	113	132
7	355	*43	7	40	*41	48	47	356	42	0	51	48	51	38	35	349	4	9	8	26
291	285	327	299	321	327	334	338	284	324	282	332	334	338	325	322	277	285	296	286	312
175	169	216	183	213	212	220	221	168	216	174	225	219	223	212	213	169	182	188	186	205
67	59	109	75	103	104	111	112	59	107	63	114	110	113	99	97	51	69	79	73	90
318	312	* 2	7	356	0	0	2	312	356	314	6	2	7	351	351	307	322	330	318	343
203	196	248	258	243	242	249	251	196	247	195	253	250	251	238	237	188	205	212	210	230
126	120	169	175	163	162	170	169	120	164	122	174	171	173	159	159	114	129	137	133	149
41	39	87	96	85	90	95	96	41	92	45	*99	96	99	84	87	36	52	65	60	78
315	315	0	0	341	0	*0	11	304	11	315	0	11	0	0	0	338	297	323	323	341
187	178	230	238	227	222	234	230	178	228	180	234	235	235	220	218	174	187	196	195	213
96	90	135	142	131	133	139	137	88	133	90	143	139	142	101	129	79	90	104	103	118
347	343	29	35	23	*23	32	29	339	25	341	30	29	31	21	19	333	347	5	351	9
235	229	279	284	274	278	287	286	227	315	280	283	280	284	278	277	220	231	248	239	261
146	141	189	194	180	188	191	189	333	180	144	196	189	195	168	176	133	146	160	157	171
19	12	63	70	61	58	68	69	15	56	19	71	63	69	60	54	3	21	36	32	45
282	274	319	330	319	319	323	324	274	324	279	328	324	324	319	315	272	283	300	300	311
196	193	240	249	241	238	246	243	191	243	194	251	247	247	233	234	186	193	210	207	221
75	65	113	123	112	113	120	122	61	117	66	128	111	113	106	104	50	66	90	74	90
333	331	19	19	8	9	8	19	326	9	328	19	19	19	0	9	310	326	341	338	8
243	238	278	293	283	277	284	286	235	286	238	291	289	297	278	278	222	234	251	236	278
155	150	194	203	193	193	199	203	150	193	155	207	201	201	194	180	136	148	172	153	174
41	27	88	79	63	90	82	81	37	90	45	90	90	81	81	63	5	23	27	22	45

Row Plane Data (ΔEL)

Row	6/21	6/22	6/23	6/24	6/25	6/26	6/27	6/28	6/29	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11
1	63	353	127	29	56	58	63	90	345	24	90	81	93	79	45	90	17	63	76	76	66
2	337	344	27	321	347	344	337	338	341	0	22	29	331	37	345	24	25	19	30	25	5
3	171	180	225	174	180	180	175	220	216	180	229	230	230	230	171	233	178	222	203	230	222
4	156	161	207	159	167	155	165	156	199	174	203	199	207	211	156	180	124	180	180	180	169
5	43	47	90	24	48	45	50	43	5	60	86	86	86	85	47	93	31	79	93	96	70
6	278	278	336	259	282	281	287	277	320	297	324	323	335	333	281	323	263	318	324	321	294
7	195	200	247	177	205	198	207	197	243	212	239	241	251	249	157	243	175	229	245	235	214
8	87	76	135	66	79	70	86	67	114	90	105	126	128	119	74	120	49	98	126	130	93
9	347	0	45	329	0	357	2	349	0	0	28	37	42	42	351	33	328	21	37	27	4
10	249	291	304	247	254	253	254	250	290	262	291	286	297	293	247	292	221	278	297	291	273
11	139	144	198	130	147	144	148	137	186	153	180	185	192	188	141	186	125	183	167	164	162
12	45	45	99	42	51	43	52	40	67	51	82	87	90	88	41	87	16	74	64	74	52
13	303	326	0	285	311	305	312	304	350	314	341	348	2	0	304	353	291	343	345	353	329
14	217	218	270	196	222	216	222	212	258	223	259	256	270	268	214	261	194	245	246	247	229
15	181	86	142	64	90	89	190	86	133	96	125	128	138	139	83	131	86	121	120	127	102
16	336	341	31	316	343	338	341	333	21	347	319	319	323	26	335	22	312	7	5	9	354
17	247	256	303	220	255	249	253	243	294	257	286	289	296	296	249	258	221	274	272	277	259
18	176	174	225	153	178	173	177	169	215	160	215	210	220	223	169	216	141	195	193	196	177
19	47	46	96	25	51	48	53	44	98	59	86	88	90	97	43	88	23	79	79	84	63
20	294	297	353	278	304	300	304	294	345	308	338	341	347	348	296	341	272	325	322	330	308
21	192	196	245	175	203	196	203	193	236	208	234	238	246	244	192	237	182	234	235	241	213
22	88	90	145	67	98	90	99	82	131	97	128	130	137	137	82	135	52	106	102	107	67
23	352	355	46	333	0	352	356	348	35	0	31	30	39	39	347	36	327	18	16	23	2
24	240	242	295	221	246	241	245	238	284	279	277	279	288	288	236	283	221	272	271	276	260
25	132	135	189	111	143	135	142	132	180	148	176	178	189	185	131	178	122	168	167	173	155
26	45	49	103	27	55	48	54	43	90	56	73	86	86	96	43	90	25	62	73	75	61
27	197	201	247	188	207	199	205	196	245	210	226	237	245	247	195	242	180	234	233	234	217
28	90	97	150	75	122	94	101	90	139	104	136	138	146	145	98	138	77	131	129	134	114
29	356	3	56	338	4	0	1	355	38	6	38	37	45	47	354	40	333	26	27	31	9
30	242	244	295	225	249	244	247	239	186	251	283	280	290	293	240	286	226	277	274	280	262
31	168	171	220	148	174	169	174	164	209	176	205	206	218	214	163	287	144	198	195	201	173
32	46	50	97	28	53	47	51	42	90	55	86	89	93	95	43	88	25	79	78	82	64
33	315	322	14	297	325	320	325	316	2	327	357	3	7	6	314	8	333	357	357	1	341
34	234	241	290	215	248	240	243	236	279	249	272	278	284	281	234	276	239	262	270	272	258
35	115	117	164	97	125	110	110	105	153	121	151	152	160	161	103	152	57	145	135	146	122
36	2	3	57	345	9	3	7	0	45	16	41	43	48	48	357	43	341	33	34	39	18
37	251	250	303	232	259	248	253	242	288	300	287	287	293	289	240	282	216	272	272	274	241
38	153	158	210	135	162	152	155	148	196	203	192	190	201	202	145	191	132	182	180	189	172
39	71	74	125	50	81	70	76	68	114	124	118	113	120	120	66	212	51	102	101	107	93
40	340	345	34	327	348	347	345	336	26	35	21	24	33	33	338	28	328	320	16	24	5
41	206	221	261	284	225	220	225	218	261	270	254	262	262	270	209	262	218	256	256	261	245
42	142	140	194	121	147	137	140	133	176	191	180	180	186	180	132	180	116	171	171	174	157
43	44	48	90	29	52	44	48	40	87	90	81	82	90	92	38	85	28	76	78	81	60
44	252	297	349	275	300	292	301	285	337	349	333	333	340	338	288	337	275	327	326	330	308
45	180	188	236	167	192	180	188	180	228	235	225	225	225	226	176	225	169	220	217	223	210
46	99	129	156	80	107	99	103	95	145	153	139	140	145	147	99	140	85	107	107	112	98
47	341	342	38	5	346	338	343	337	25	30	16	19	25	25	334	21	327	16	14	23	3
48	236	238	291	217	242	234	241	235	274	280	273	274	281	283	232	276	223	273	273	277	259
49	142	144	193	121	147	143	145	138	174	193	180	180	197	181	138	180	122	175	170	175	156
50	25	25	75	3	27	25	28	20	60	70	63	61	69	71	19	65	9	63	61	63	45
51	266	273	341	244	295	287	290	282	324	333	326	323	329	330	281	336	274	322	326	329	307
52	166	173	238	171	188	180	191	176	229	238	229	226	236	232	176	229	173	222	215	225	204
53	127	117	157	99	110	104	109	100	153	164	140	150	153	153	99	153	90	135	135	139	121
54	347	0	45	322	6	0	0	350	33	34	24	34	45	45	350	31	343	34	34	27	19

6/28	6/29	6/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17
98	345	24	98	81	99	79	46	90	17	63	76	76	68	6	41	349	54	58	60
138	341	0	22	29	131	37	345	324	25	19	30	25	5	23	334	347	351	0	0
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56	199	174	203	199	207	211	156	180	124	180	180	186	169	188	140	151	153	161	167
43	5	60	86	86	86	85	47	90	31	79	90	96	70	64	43	59	48	62	58
477	320	297	324	323	335	333	281	323	263	318	324	321	294	319	278	285	283	290	289
197	243	212	239	241	251	249	197	243	178	229	245	256	214	229	186	203	200	206	213
67	114	90	105	126	128	119	74	128	49	99	126	130	93	113	82	98	87	85	80
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137	165	153	180	186	192	148	141	166	125	183	167	166	162	175	137	150	151	145	161
40	67	51	82	87	90	42	41	87	16	74	64	74	52	72	29	46	43	40	53
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212	258	223	259	256	270	260	214	261	194	245	246	247	223	238	232	216	211	208	228
86	103	96	125	128	138	139	83	131	86	121	120	127	102	120	76	96	90	87	99
333	21	347	319	19	323	26	335	22	312	7	5	9	354	2	324	335	337	330	351
243	294	257	286	289	296	296	249	298	221	274	272	277	259	274	228	243	248	241	255
169	215	160	215	210	220	220	169	218	141	195	193	196	177	198	150	162	162	152	176
44	98	59	86	88	90	97	43	88	23	79	79	84	60	75	34	49	48	44	57
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193	238	206	234	238	246	244	192	237	182	234	235	241	213	229	196	209	208	200	219
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132	180	148	176	178	189	185	131	178	122	168	167	173	155	174	124	147	146	132	153
43	90	56	73	86	86	96	43	90	25	62	73	79	61	78	55	51	49	45	58
196	245	210	226	237	245	247	195	242	180	234	233	234	217	228	185	205	203	198	210
90	139	104	136	138	146	145	98	138	77	131	129	134	114	129	65	136	102	98	110
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239	186	251	283	280	290	290	240	286	226	277	274	280	262	274	231	246	247	244	254
169	209	176	205	206	218	214	163	207	144	198	195	201	173	196	157	171	171	168	178
42	90	55	86	89	93	95	43	88	25	79	78	82	64	77	32	47	51	48	59
316	2	327	357	3	7	6	314	8	303	357	357	1	341	352	311	322	326	322	334
236	279	249	272	278	284	281	234	276	209	262	273	273	254	263	218	227	230	224	240
105	153	121	151	152	160	161	103	152	87	145	135	146	122	144	97	115	115	113	123
8	45	16	41	43	48	48	357	43	341	33	34	39	18	32	351	1	8	1	11
242	288	300	287	287	293	289	240	282	216	272	278	274	251	270	228	242	247	255	260
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68	114	124	118	113	120	122	66	212	51	102	101	107	93	98	53	67	75	69	79
336	26	35	21	24	33	30	338	28	328	20	16	21	5	19	336	349	354	352	0
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40	87	90	81	82	93	92	38	85	28	76	78	81	62	75	29	38	49	46	55
285	337	349	333	353	340	336	268	337	275	327	326	329	305	322	283	293	299	293	304
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95	145	153	139	140	145	147	79	140	83	107	107	142	123	131	90	92	104	101	116
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138	174	193	180	180	197	184	138	180	122	175	170	175	156	172	128	136	147	144	153
20	60	76	63	61	69	71	19	65	9	63	61	63	45	59	11	21	34	21	43
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138	163	164	140	150	153	150	99	153	90	135	135	139	121	128	89	86	109	90	109
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1

Row Phase Data (ΔAz)

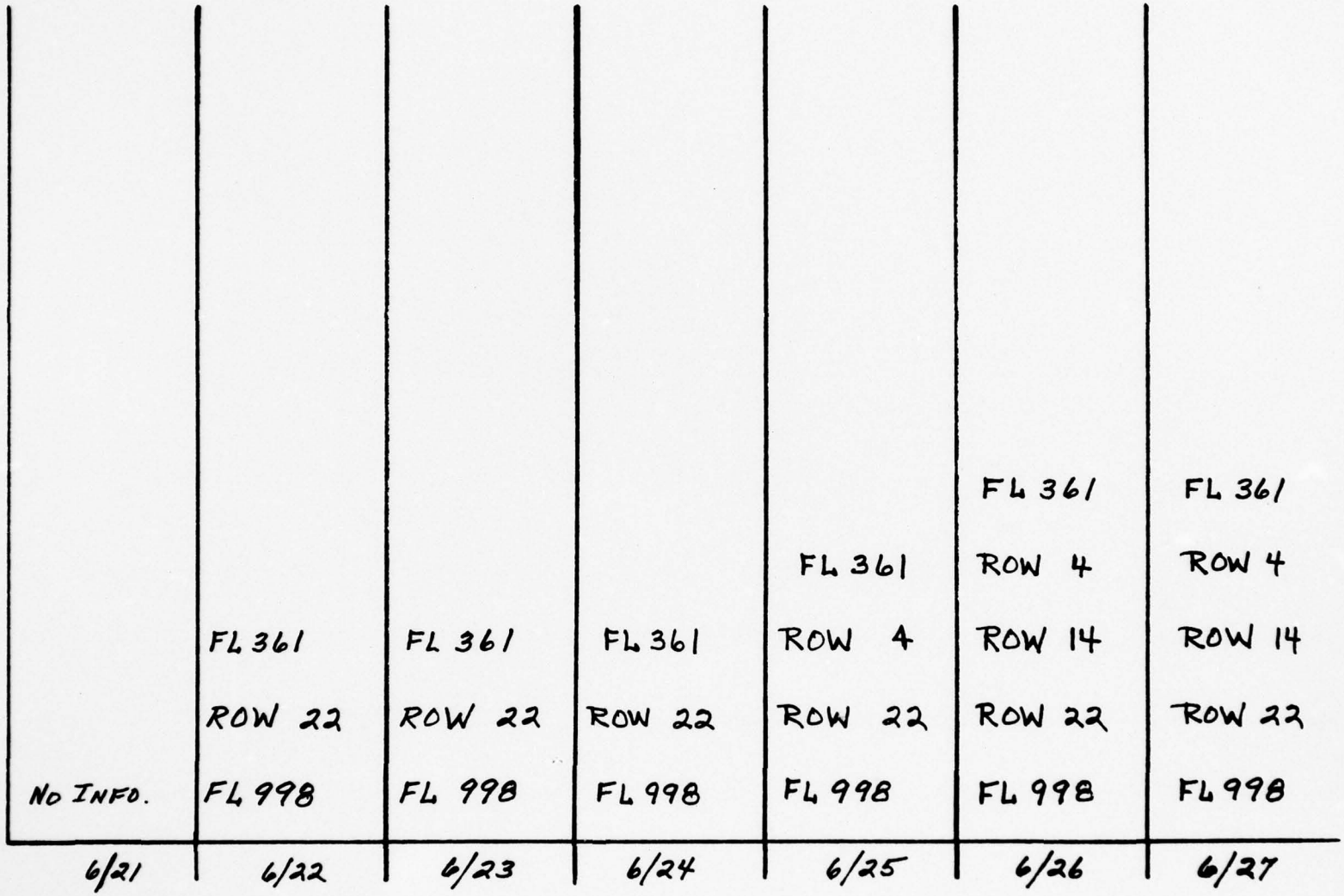
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1	327	335	33	315	337	335	347	333	336	38	*11	21	*24	27	337	14	330	25	22	33
2	274	281	*274	251	275	279	278	275	304	333	320	320	326	320	*336	[illegible]	270	329	326	336
3	180	18[illegible]	176	161	176	180	180	176	212	238	225	225	229	229	161	225	174	228	228	236
4	66	*77	73	49	71	73	79	71	98	135	117	109	117	121	71	139	59	117	117	130
5	352	[illegible]	*352	337	347	[illegible]	0	*0	36	54	29	41	37	45	0	49	354	34	45	54
6	205	213	217	180	213	213	216	210	251	270	253	257	259	270	216	257	248	[illegible]	257	270
7	129	138	141	115	135	139	143	133	171	194	180	180	180	189	132	180	120	189	180	196
8	23	20	*27	*4	21	*21	30	16	55	73	*63	63	*64	78	12	63	24	66	67	71
9	277	288	290	264	285	283	292	283	320	341	326	328	336	*340	276	328	280	334	332	344
10	173	177	185	155	180	177	180	175	212	231	220	220	228	228	177	222	172	227	223	232
11	75	81	85	58	80	79	87	77	115	138	118	124	132	135	77	*126	73	129	125	137
12	329	340	344	315	338	339	345	332	10	30	17	20	*24	26	333	*18	331	27	22	30
13	252	258	258	237	253	253	258	251	290	306	289	294	307	304	248	294	252	302	297	310
14	138	140	144	117	140	140	145	135	171	196	180	177	186	189	135	177	134	188	187	193
15	24	*32	36	11	34	31	38	*27	*64	83	66	72	*78	81	26	74	23	77	72	83
16	257	263	264	239	264	259	270	260	293	317	304	306	308	313	258	304	253	312	*307	320
17	172	178	183	157	180	177	183	175	212	232	219	219	225	227	175	217	172	225	222	231
18	65	74	*78	51	74	71	79	70	104	128	112	114	120	123	67	115	65	120	118	126
19	334	345	346	320	343	340	349	337	16	36	20	23	29	32	*38	26	*36	29	27	35
20	215	223	227	201	223	219	226	218	254	274	261	264	270	272	218	264	217	270	267	273
21	147	155	155	131	155	154	164	152	183	211	193	195	*204	202	151	192	147	200	201	210
22	8	6	7	346	5	3	11	*0	37	58	42	45	*48	53	0	46	0	49	47	*54
23	275	283	286	263	282	279	287	277	311	338	324	323	329	333	277	324	274	329	328	336
24	176	183	185	161	183	1[illegible]	185	176	212	231	219	221	225	228	176	223	174	225	224	231
25	66	66	*71	44	69	65	73	63	98	123	105	111	117	118	64	109	67	116	114	120
26	347	354	[illegible]	331	355	*352	2	350	*25	48	33	33	37	41	350	*35	345	40	35	42
27	135	142	145	117	142	139	146	138	174	196	176	180	*184	186	136	180	135	189	185	194
28	37	44	47	22	43	*41	46	40	76	97	81	83	88	390	38	*85	37	90	87	94
29	291	300	302	276	299	297	303	296	333	356	340	341	345	349	295	340	292	343	344	351
30	185	194	195	171	193	189	196	187	222	243	229	231	237	238	186	231	184	236	233	240
31	99	107	111	87	107	104	113	102	140	164	146	149	155	156	101	149	100	156	153	159
32	346	354	353	331	355	351	358	348	23	45	29	34	38	*37	347	32	*345	*26	*35	39
33	259	266	272	246	265	263	270	261	293	320	306	305	310	315	261	307	258	314	313	316
34	152	160	164	136	163	161	169	161	189	214	196	204	208	204	159	198	156	205	207	213
35	39	46	48	25	45	43	50	41	78	98	*88	90	90	93	38	84	37	93	89	96
36	296	306	306	287	305	300	307	*298	336	*312	344	346	350	355	295	346	298	352	353	356
37	177	185	186	199	183	180	185	179	212	234	219	221	225	226	176	221	174	226	225	231
38	74	84	85	92	82	79	87	77	113	135	122	*128	130	128	76	123	75	129	128	135
39	[illegible]	6	7	21	5	2	6	0	35	55	40	45	48	51	0	0	0	*50	47	55
40	281	287	287	305	286	284	289	282	319	341	327	328	336	339	282	283	283	335	334	341
41	189	200	201	222	203	199	208	199	228	253	238	243	242	251	189	198	197	244	241	247
42	61	70	70	86	70	67	71	64	*99	119	105	107	110	113	62	*62	66	114	110	119
43	343	351	353	*7	351	343	351	344	19	37	25	28	*32	35	341	346	341	38	36	36
44	235	240	242	257	239	237	242	233	270	290	278	274	281	282	231	276	231	*[illegible]	275	286
45	129	135	137	149	133	135	139	131	171	180	175	176	181	177	129	135	130	150	150	162
46	43	50	51	63	49	*45	54	45	81	100	*84	86	90	93	39	45	41	87	86	93
47	291	303	305	315	299	295	299	293	328	0	338	336	343	347	293	333	290	343	343	351
48	197	205	207	221	201	196	203	200	233	257	239	241	245	246	195	238	193	245	243	247
49	78	85	86	90	86	81	86	81	117	135	119	126	127	135	*78	117	76	129	125	132
50	341	352	345	0	347	343	347	341	13	36	*24	21	*29	33	339	21	338	*27	25	35
51	235	*249	248	270	246	248	248	233	270	301	278	278	*286	289	240	279	239	289	284	289
52	132	139	135	157	135	131	135	131	172	180	174	180	180	186	132	180	127	180	180	180
53	24	35	38	63	32	29	37	*29	63	82	69	67	*76	74	22	63	25	73	71	84
54	286	297	297	315	300	293	300	297	323	*0	338	338	338	0	286	333	283	344	344	[illegible]

2

(A2)

4/26	4/27	4/28	4/29	4/30	7/1	7/2	7/3	7/4	7/5	7/6	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17
35	347	333	336	30	*11	21	*24	27	337	14	330	25	22	33	*0	29	0	3	20	351	17
19	279	275	304	333	320	320	326	320	336	326	270	329	326	336	304	333	299	291	315	290	312
18	180	176	212	238	225	225	229	229	161	235	174	228	228	236	203	251	202	199	219	191	217
13	79	71	92	135	117	109	117	121	71	139	59	117	117	130	90	117	90	92	114	90	109
0	0	*8	36	54	29	41	37	45	0	49	354	34	45	54	25	56	10	20	29	15	23
13	216	210	251	270	253	257	259	270	216	257	248	261	257	270	243	270	227	237	251	222	245
19	143	133	171	194	182	180	180	189	132	180	120	188	180	196	167	191	*158	159	174	151	174
4/	30	16	*55	73	*63	*63	*69	78	12	63	24	66	67	71	48	76	*45	48	62	*36	56
13	292	283	320	341	326	328	336	*340	276	328	282	334	332	344	315	341	305	311	324	295	323
17	180	175	212	231	220	220	223	228	177	222	172	227	223	232	206	236	195	195	218	190	211
19	87	77	115	138	118	124	122	135	77	126	73	129	125	137	108	137	99	97	121	90	117
23	345	332	10	30	17	20	*24	26	333	*18	331	27	22	30	7	30	356	354	13	350	10
53	258	251	290	306	289	294	307	314	248	294	252	302	297	310	281	306	272	279	287	264	287
10	145	135	171	196	*80	177	188	189	135	177	134	188	187	193	171	193	157	158	178	148	176
31	38	*27	*64	83	66	72	*78	81	26	74	23	77	72	82	60	82	42	*56	67	41	63
59	270	260	293	317	304	306	308	313	258	304	253	312	*307	320	290	*312	255	266	298	270	293
27	185	175	212	232	219	219	225	227	175	217	172	225	222	231	210	229	193	203	215	189	212
71	76	70	104	128	112	114	120	123	67	115	65	120	118	126	102	123	88	89	107	83	105
40	349	337	16	36	20	23	29	32	338	26	336	29	27	35	13	34	*1	1	19	352	17
13	220	218	254	274	261	264	270	272	215	264	217	270	267	273	253	273	233	236	259	244	253
54	164	*52	183	211	193	195	*204	222	151	192	147	200	201	210	182	205	173	176	193	166	191
3	11	*0	37	58	42	45	*48	53	0	46	0	49	47	*54	35	54	*16	26	*40	27	36
79	287	277	311	338	324	323	329	332	277	324	274	329	328	336	312	334	296	305	319	291	313
-	185	176	212	231	219	221	225	228	176	220	174	226	224	231	211	230	192	203	215	189	212
65	73	63	98	123	105	111	117	118	64	109	67	116	114	120	98	121	85	93	104	101	103
57	2	*35	*25	46	33	33	37	41	350	*35	345	40	35	42	23	42	5	14	29	1	23
39	146	138	174	196	176	180	*189	188	136	180	135	189	185	194	174	193	156	164	177	152	173
41	46	40	76	97	81	83	89	*96	38	*85	37	90	87	94	74	93	54	66	78	52	74
97	303	296	333	356	340	341	345	349	295	346	292	346	344	351	330	351	317	321	334	308	331
89	196	187	222	243	229	231	237	238	186	231	184	236	*208	240	220	240	201	213	224	200	219
84	118	102	140	*114	146	149	155	156	101	149	138	156	153	159	140	161	121	132	144	115	140
51	358	349	23	45	29	34	35	*37	347	32	*34	*36	*36	39	*22	40	0	11	26	1	21
63	270	261	293	320	306	305	*310	*315	261	307	258	*314	*318	316	295	317	*273	286	302	271	295
61	169	161	189	214	196	204	*205	204	159	199	158	*203	207	213	192	212	178	*186	*198	167	187
43	58	41	78	98	*83	90	90	93	38	84	37	90	89	99	73	96	55	67	80	54	76
00	327	*345	336	*342	344	346	350	355	295	346	298	352	352	356	335	357	320	329	341	311	334
80	185	175	212	234	219	221	225	226	176	221	174	226	220	*231	211	229	191	*207	216	189	210
79	87	77	113	135	122	*128	*130	129	76	123	75	129	*125	135	115	135	94	*102	120	87	113
2	6	0	35	55	43	45	48	51	0	0	2	*50	47	53	35	*55	16	30	40	12	33
84	289	*312	319	341	327	328	336	339	282	283	283	334	*334	341	321	342	*306	*317	325	299	323
99	208	199	228	253	*234	243	242	251	199	198	197	244	241	247	233	*240	226	*226	230	214	230
67	71	64	*99	119	105	107	110	113	62	*61	60	114	110	119	*96	114	77	*90	99	77	95
43	351	344	19	37	25	28	*32	36	341	346	341	32	34	36	13	36	8	13	20	353	14
27	242	233	270	290	278	274	281	284	231	286	231	*282	279	*288	270	285	250	264	270	*247	270
33	135	131	171	180	176	176	181	182	129	135	130	136	136	167	166	166	147	159	169	144	164
95	54	45	81	100	*86	*86	90	94	39	45	41	87	90	93	76	92	*56	*73	80	54	74
95	299	293	328	0	338	336	340	347	293	333	290	343	343	351	327	348	314	321	327	302	326
96	233	230	233	257	239	241	243	246	195	238	193	245	243	247	234	250	210	225	234	210	228
81	86	81	117	135	119	126	127	135	*78	117	76	129	*125	132	115	129	*90	104	115	90	110
43	347	341	13	36	*24	21	*29	33	339	21	338	*27	25	35	*14	33	355	*9	19	347	12
58	248	233	278	301	278	278	*316	289	266	279	259	289	284	289	270	283	254	277	270	248	270
31	136	131	172	180	174	180	180	180	128	180	127	180	180	180	160	180	149	158	174	142	166
29	57	*29	63	82	69	67	*76	74	22	63	25	73	71	84	63	77	43	63	*63	37	61
93	300	297	323	*0	338	338	338	0	286	333	288	344	*344	344	329	344	306	310	333	300	324

Fault Location Summary MISSAKE



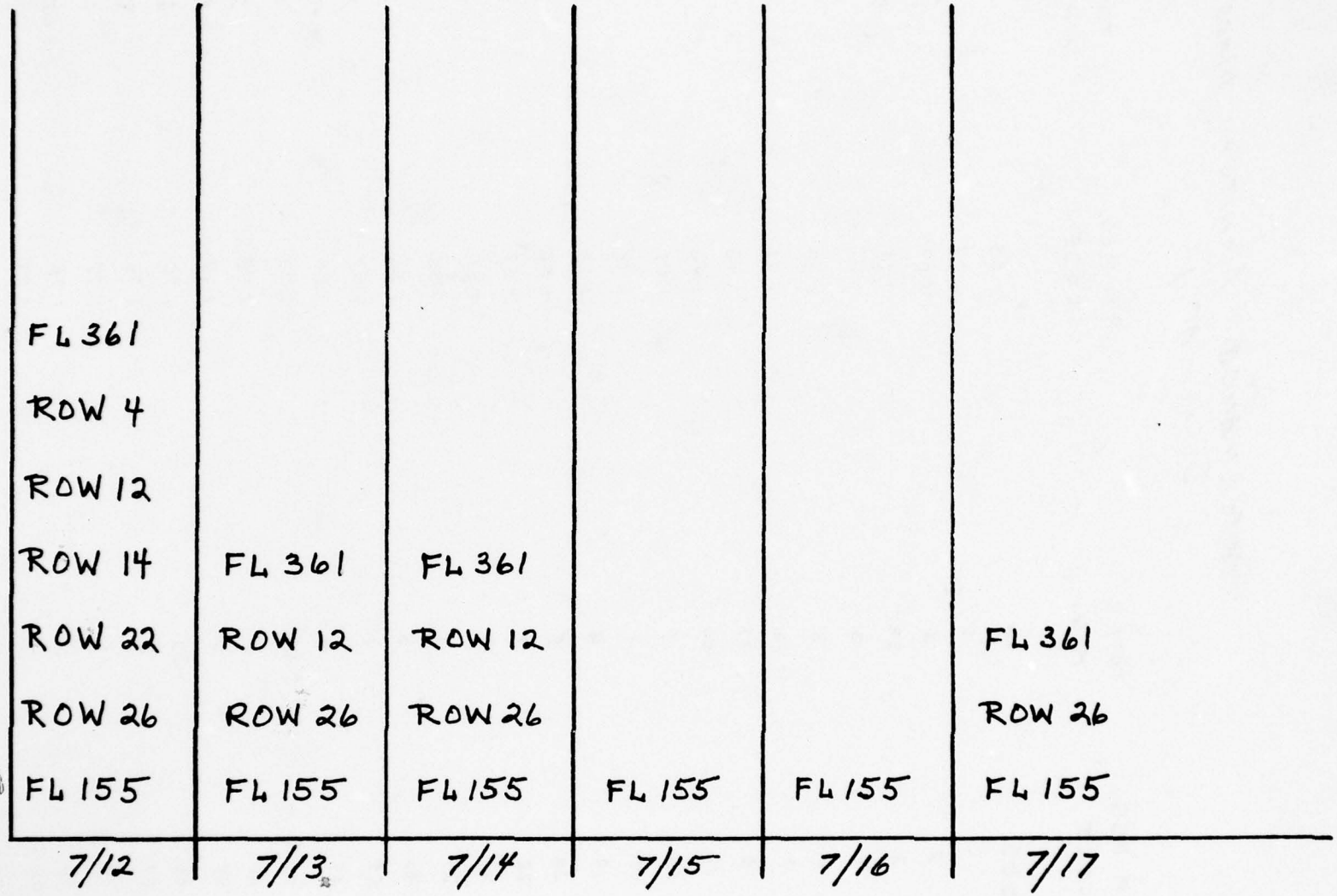
N-11

6/28	6/29	6/30	7/1	7/2	7/3	7/4
FL 361			FL 361	FL 361	FL 361	FL 361
ROW 4			ROW 4	ROW 4	ROW 4	ROW 4
ROW 14			ROW 14	ROW 14	ROW 14	ROW 14
ROW 22			ROW 22	ROW 22	ROW 22	ROW 22
FL 42	NO INFO.	NO INFO.	FL 42	FL 47	FL 42	FL 47

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7/5	7/6	7/7	7/8	7/9	7/10	7/11
		FL 361	FL 361	FL 361	FL 361	FL 361
		ROW 4	ROW 4	ROW 4	ROW 4	ROW 4
FL 361	FL 361	ROW 12	ROW 12	ROW 12	ROW 12	ROW 12
ROW 4	ROW 4	ROW 14	ROW 14	ROW 14	ROW 14	ROW 14
ROW 14	ROW 14	ROW 22	ROW 22	ROW 22	ROW 22	ROW 22
ROW 22	ROW 22	ROW 26	ROW 26	ROW 26	ROW 26	ROW 26
FL 155 (42)	FL 155 (48)	FL 155	FL 155	FL 153	FL 155	FL 155

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FL 361
ROW 4
ROW 12
ROW 14
ROW 22
ROW 26
FL 155
FL 361
ROW 12
ROW 26
FL 155
FL 361
ROW 12
ROW 26
FL 155
FL 155
FL 155
FL 361
ROW 26
FL 155
7/12
7/13
7/14
7/15
7/16
7/17

PERFORMANCE MONITOR MESSAGE SUMMARY

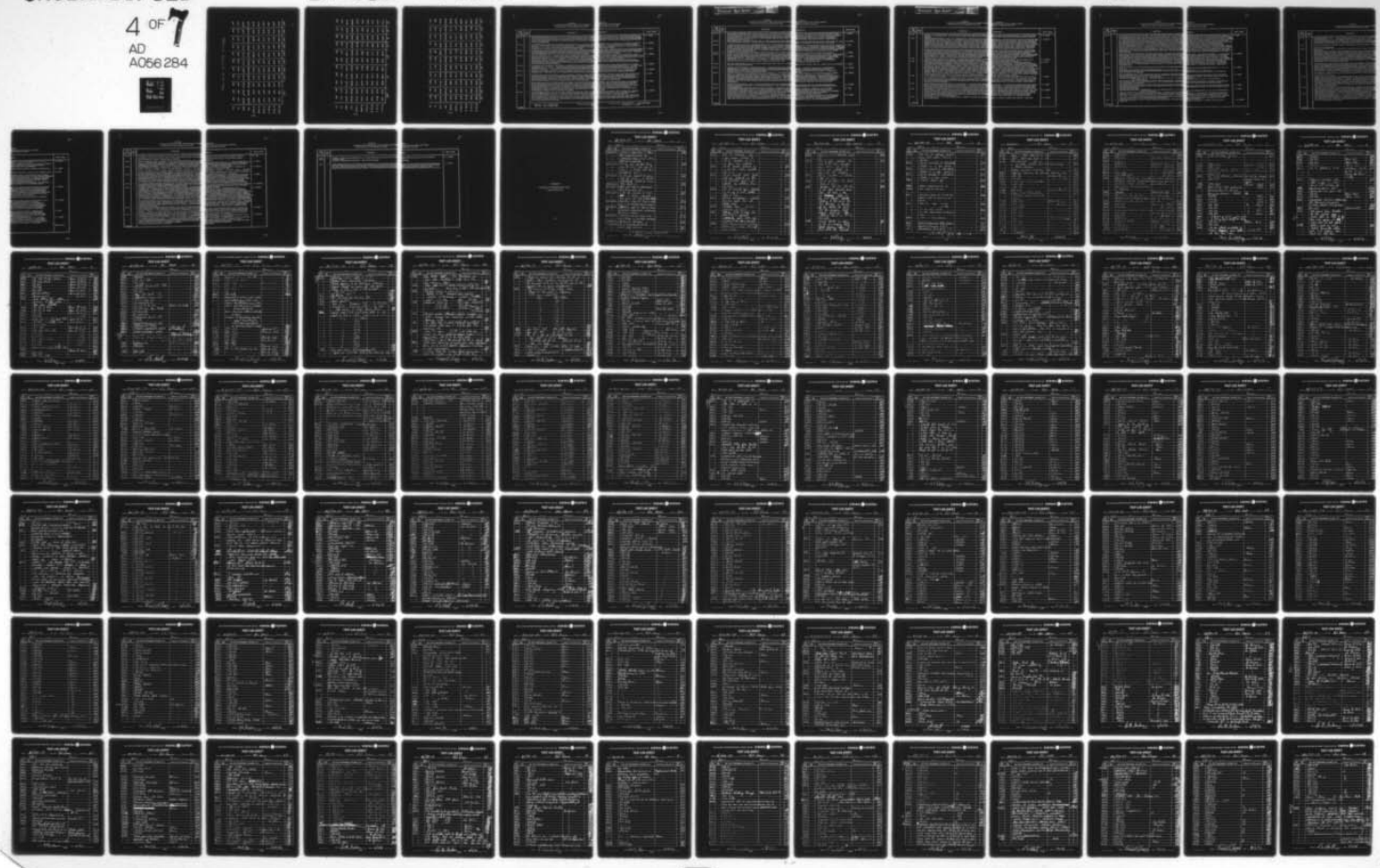
PM MSG. CODE	TOTAL MSG.	PM MSG. CODE	TOTAL MSG.
000	19	103	2
1	4	104	1
2	3	109	2
3	29	111	35
4	0	117	4
8	6	139	3
9	112	142	4
10	391	143	2
11	44	146	1
12	1	147	9
18	1	148	1
19	4	150	2
20	5	151	1
22	3	152	2
23	9	154	4
27	1	155	1
30	6	156	2
58	1	158	1
59	7	164	443
61	350	172	2
62	5	173	3
85	4	174	2
86	20	175	6
87	4	176	8
89	15	177	1
93	5	178	167
94	7	179	2
95	7	180	4
96	2	181	9
97	4	182	6
100	6	183	2

PM MSG. CODE	TOTAL MSG.	PM MSG. CODE	TOTAL MSG.
184	3	952	1
186	4	995	185
187	12	996	4
188	1	998	2
189	5		
190	1		
191	4		
194	16		
195	2		
197	1		
202	1		
207	8		
208	8		
209	7		
210	4		
213	9		
214	10		
215	7		
216	6		
249	12		
250	13		
257	549		
258	271		
259	3		
260	1		
261	34		
262	453		
269	171		
270	52		
290	1		
292	117		

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AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

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AD
A056284



Mono Pulse Estimate Summary

AZ.	.822	.823	.824	.900	.844	.839	.851	.817	.847	.840	.805
EL.	1.003	1.006	1.007	1.131	1.086	1.046	1.082	1.094	1.093	1.105	1.075
SUM.	105.56	105.45	105.38	102.75	100.46	100.10	101.92	101.04	101.16	101.89	100.89
RG.	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38
SUM-I	91.35	91.42	91.39	91.53	87.42	98.89	88.66	91.21	88.45	91.65	90.09
SUM-Q	28.97	28.59	28.45	22.86	26.88	2.98	27.06	20.05	26.19	20.87	22.26
D AZ-I	51.63	51.95	52.10	53.83	50.74	73.44	50.30	57.67	51.17	56.32	55.88
D AZ-Q	79.60	79.50	79.58	79.86	78.99	65.50	78.61	72.91	78.14	74.40	73.40
D EL-I	43.96	44.22	44.17	46.35	42.45	65.62	41.76	49.46	42.89	47.55	46.40
D EL-Q	85.18	85.10	84.79	89.22	88.83	72.92	86.46	85.56	88.12	84.67	83.55
	6/21			6/22	6/23	6/24	6/25	6/26	6/27	6/28	6/29

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	6/30		7/1			7/2		7/3	7/4	7/5	7/6
AZ.	.828	.829	.860	.832	.848	.862	.870	.813	.825	.831	.834
EL.	1.100	1.107	1.115	1.108	1.115	1.163	1.173	1.070	1.096	1.141	1.123
SUM	103.98	103.60	101.94	101.53	102.03	101.32	100.77	101.78	99.96	100.46	99.53
RG.	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38
SUM-I	86.73	86.67	91.19	94.83	91.64	94.76	94.30	86.38	88.66	92.76	93.35
SUM-Q	35.18	34.60	22.09	14.00	21.38	13.64	13.48	31.14	22.97	15.78	13.00
D AZ-I	44.50	44.94	54.74	62.78	55.82	61.96	61.64	48.53	54.75	60.13	62.76
D AZ-Q	82.67	82.51	76.20	70.17	75.30	71.18	71.31	80.64	75.54	70.17	69.12
D EL-I	33.28	33.46	46.34	53.56	46.73	52.94	52.73	38.64	45.43	51.72	54.29
D EL-Q	90.49	90.28	86.18	80.42	85.13	83.16	83.39	89.99	86.04	84.14	81.21

	7/7	7/8	7/9	7/10	7/11	7/12	7/13	7/14	7/15	7/16	7/17
AZ.	1.246	1.237	1.260	1.323	1.219	-1.669	-1.620	.177	1.597	1.670	1.235
EL.	1.069	1.065	1.164	1.081	1.036	1.092	.986	1.085	1.049	1.084	.967
SUM.	104.83	103.78	101.96	99.87	102.29	99.55	100.03	96.80	101.94	97.16	95.39
RG.	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38	279.38
SUM-I	96.05	89.01	94.73	89.52	98.39	96.52	97.07	92.19	96.71	97.13	82.82
SUM-Q	18.08	30.03	15.03	21.12	8.46	- 6.50	- 6.28	9.76	-11.16	0.07	25.55
D AZ-I	44.50	33.87	46.77	40.62	56.36	46.39	42.32	85.84	58.64	48.26	38.99
D AZ-Q	83.39	91.51	82.93	92.09	82.19	82.98	84.85	24.81	73.35	80.72	97.21
D EL-I	52.46	39.96	51.90	49.01	61.41	74.20	73.56	52.82	77.46	69.23	48.15
D EL-Q	82.60	87.52	84.21	86.71	76.64	70.81	63.71	71.07	64.55	75.17	87.63

AN/TPS-59

RELIABILITY DEMONSTRATION TEST ACTIVITY SUMMARY

PERIOD FROM 21 JUNE 1976 THROUGH 17 JULY 1976

DATE 2400 HR. TIME	SHIFT NO. *	DESCRIPTION **
6-21-76	2	THE RELIABILITY TEST STARTED AT 2300 ON 6-21-76. f_1 THROUGH f_7 WERE ACTIVATED. THROUG 258, 269, 164, AND 61 MESSAGES SPORADICALLY OCCURRED. AT 0625 THE MODE 4 LIGHT ON THE U AND PM 62 AND 292 MESSAGES RESULTED. IT WAS LATER DETERMINED THAT THE TPX-28 GAIN WA A LOT OF NOISE BEING SENT TO THE IFF DATA CONTROLLER (IFFDC). THE PM 62 AND 292 MESSAG MEMORY WAS OVERLOADED.
6-22-76	1	1) DECREASED GAIN OF TPX-28 TO REMOVE MODE 4 INDICATION ON UPA-60. 2) DISABLED f_1 TO A PM164 MSG. CUT NEW PAPER TAPE TO OPERATE ON f_2 THROUGH f_7. 3) INCREASED GAIN OF TPX- OPERATION. O.K. 4) TPX-28 TAKEN OFF-LINE TO DECREASE GAIN. PM MESSAGES CONTINUED. PM MSG's 258, 164, 59, AND 269. (SEE ATTACHED SHEET FOR PM DENSITY/TIME.)
6-22-76	2	AT 2353 ON 6-22-76, THE GENERATORS SHUT DOWN AND WE LOST POWER. THE TRANSMITTER STAT E-15 PROGRAM IN ORDER TO DETERMINE WHETHER THE SUDDEN LOSS OF POWER RESULTED IN AN IT WAS DETERMINED NO TRANSMITTERS WERE LOST. THE SYSTEM WAS BACK ON THE AIR AT 0050 THE USUAL ASSORTMENT OF PM 164, 258, 269, AND 61 MESSAGES THROUGHOUT THE SHIFT.
6-23-76	1	RAN WITH GENERATORS 3 AND 4. OBSERVED MANY PM292's. REDUCED TPX-28 GAIN TO QUIET TE GOT PM 100, 207, 208, 209, 210, 93. RERUN CAUSED PROBLEM TO REPEAT. REBOOTED "T" BUT P INDICATED BAD EXCITER (FL 562 W/f_1 - 10 DISABLED). RAN MANY TESTS TO TRY TO ISOLATE PR FOR DETAILS). PROBLEM "WENT AWAY" AROUND 1745. RELOADED "T" AND RESUMED TESTING. ABOVE ACTION RESULTED IN ONE SEAL BEING BROKEN (UNIT 4). SINCE NO REPAIRS WERE MADE RELEVANT FAILURE. THE ONLY POSITIVE ACTION THAT WAS TAKEN TO REMOVE THE PROBLEM OF TWO CONNECTORS WITHIN THE EXCITER.
6-23-76	2	1) ENABLED TAOC AND OPERATED FOR 11 HOURS. 2) NUMEROUS PM258's, PM164 UNTIL APPRO THEN SEVERAL 142, 154, 157, 995. JAMMING LIKE INDICATIONS ON PPI's. DISABLED FREQUENCI IF PPI WOULD CLEAR UP, NO HELP. OPERATED WITHOUT BLANKING FOR ONE AZIMUTH SCAN, NO GRADUALLY CLEARED UP. 3) HARDWARE FAULT OCCURRED IN COMPUTER, REBOOTED TAPE B
6-24-76	1	POWERED UP WITH GENERATORS 1 AND 4. HAD WEAK TROUBLE WITH GENERATOR 1. FINALLY, NUMBERS 2 AND 4. OTHER THAN THE "USUAL" AMOUNT OF PM MESSAGES, NO OTHER PROBLEMS
6-24-76	2	RECORDED CONTINUOUS STE408 MESSAGES. CALLED LEO GORDONA. DIESEL NO. 4 HAD BEEN AC LEO HAD TRIED PARALLELING NO. 4 WITH OTHERS WITH SAME RESULTS. TURNED SYSTEM OFF. OFF THE AIR ONE HOUR. OBTAINED MULTIPLE PM995, PM258 MESSAGES WHEN ATTEMPTED DISA NORMALIZER FROM POST VIEW DISPLAY. THIS IS A NO-NO. OVERLOAD CONDITION. RECORDED PM258 AND PM164 MESSAGES. HAD TO FINALLY SHUT DOWN STE408. RAN OUT OF PAPER.
6-25-76	1	HAD NUMEROUS PM164 AND PM258 MESSAGES THROUGHOUT SHIFT. RAN 12 RPM FOR FOUR HOURS. IN DCDC THE COMPUTER NEVER RECEIVED THE 12 RPM COMMAND; HENCE, THE BEAM TEMPLAT ALSO IT WAS DISCOVERED THAT THE MINIMUM ELEVATION ANGLE OBTAINABLE FOR SENSOR GAT IT APPEARS THAT A DCDC FAULT IS CAUSING THIS PROBLEM. WE CONTINUE TO OBTAIN HUNDRE ERRORS FROM THE STE408. GENERATOR NO. 1 PULLED OFF-LINE AND REPLACED WITH GENERA GENERATOR NO. 1 PHASE TWO WAS NOT SHARING LOAD PROPERLY. FROM OBSERVING PPI, IT AP ONE FREQUENCY IS GIVING VERY POOR CLUTTER CANCELLATION.
6-25-76	2	CIRCUIT BREAKER TRIPPED IN UNIT 6 AT 2333 HOUR. RESET SHELTER BREAKER. TRIED TO RES ARCING OCCURRED IN UNIT 6. DCAS CALLED. STAN BLASZKOW ARRIVED AT 0020 HOUR. BROKE FOUND NO VISIBLE EVIDENCE OF ARCING. SUCCESSFULLY RESET BREAKER. PROCEEDED WITH HAD 4 1/2 HOURS WITH NO PM MESSAGES. BEGAN TO GET PM 257's AND 258's AT 0545 (SUN RISE). POWER MONITOR FAULTS. SHUT DOWN "T" AT 0730 IN ORDER TO GET MORE OVERLAP WITH NEXT S NO. 1 AND NO. 3. SEEMED TO WORK O.K., ALTHOUGH PHASE B LOAD WAS SHARED MORE BY NO. EQUIPMENT POWERED DOWN AT 0740 HOUR.

CONTINUED

* SHIFT NO. 1 0800 - 2000 HOUR TIME
SHIFT NO. 2 2000 - 0800 HOUR TIME

** SOURCE OF DATA: TEST
FAIL

2

AN/TPS-59
RATION TEST ACTIVITY SUMMARY
NE 1976 THROUGH 17 JULY 1976

ESCRIPTION **	SHIFT LEADER
THROUGH f_7 WERE ACTIVATED. THROUGHOUT THE SHIFT PM 178, ED. AT 0625 THE MODE 4 LIGHT ON THE UPA60 STARTED FLASHING DETERMINED THAT THE TPX-28 GAIN WAS TOO HIGH RESULTING IN LER (IFFDC). THE PM 62 AND 292 MESSAGES INDICATED THE IFFDC	J. L. PERRY
CATION ON UPA-60. 2) DISABLED f_1 TO ATTEMPT TO ELIMINATE THROUGH f_7. 3) INCREASED GAIN OF TPX-28 VIDEO TO CHECK REASE GAIN. PM MESSAGES CONTINUED. 5) HIGH FREQUENCY OF FOR PM DENSITY/TIME.)	H. A. BURRIS
E LOST POWER. THE TRANSMITTER STATUS WAS CHECKED WITH THE SUDDEN LOSS OF POWER RESULTED IN ANY TRANSMITTER FAILURES; HE SYSTEM WAS BACK ON THE AIR AT 0050 ON 6-23-76. THERE WAS ESSAGES THROUGHOUT THE SHIFT.	J. L. PERRY
2's. REDUCED TPX-28 GAIN TO QUIET THINGS DOWN. AT 1200 BLEM TO REPEAT. REBOOTED "T" BUT PROBLEM REMAINED. RAN FL. RAN MANY TESTS TO TRY TO ISOLATE PROBLEM (SEE PP 12, 13, 14** RELOADED "T" AND RESUMED TESTING. UNIT 4). SINCE NO REPAIRS WERE MADE PROBLEM IS NOT A WAS TAKEN TO REMOVE THE PROBLEM WAS THE RESOLDERING	R. A. JOSEPH
NUMEROUS PM258's, PM164 UNTIL APPROXIMATELY 0400 HOUR. ICATIONS ON PPI's. DISABLED FREQUENCIES 2, 4, 5, 6, AND 7 TO SEE UT BLANKING FOR ONE AZIMUTH SCAN, NO HELP. PROBLEM URRED IN COMPUTER, REBOOTED TAPE BACK ON-LINE. O.K.	H. A. BURRIS
ROUBLE WITH GENERATOR 1. FINALLY, RESTARTED USING OF PM MESSAGES, NO OTHER PROBLEMS WERE NOTED.	R. A. JOSEPH
O GORDONA. DIESEL NO. 4 HAD BEEN ACTING UP RIGHT ALONG. SAME RESULTS. TURNED SYSTEM OFF. STARTED UP NO. 1. PM258 MESSAGES WHEN ATTEMPTED DISABLING MTI AND NO. OVERLOAD CONDITION. RECORDED HIGH FREQUENCY OF OWN STE408. RAN OUT OF PAPER.	M. I. FOX
UT SHIFT. RAN 12 RPM FOR FOUR HOURS. DUE TO PROBLEM COMMAND; HENCE, THE BEAM TEMPLATE WAS FOR 6 RPM. ON ANGLE OBTAINABLE FOR SENSOR GATE NO. 3 WAS $8{\cdot}01^{\circ}$; LEM. WE CONTINUE TO OBTAIN HUNDREDS OF LOW VOLTAGE OFF-LINE AND REPLACED WITH GENERATOR NO. 3. PROPERLY. FROM OBSERVING PPI, IT APPEARS AT LEAST ELLATION.	J. L. PERRY
ESET SHELTER BREAKER. TRIED TO RESET UNIT 6 BREAKER --- ASZKOW ARRIVED AT 0020 HOUR. BROKE SEAL ON UNIT 6. LY RESET BREAKER. PROCEEDED WITH TEST. T PM 257's AND 258's AT 0545 (SUN RISE). ALSO BEGAN TO GET DER TO GET MORE OVERLAP WITH NEXT SHIFT. PARALLELED PHASE B LOAD WAS SHARED MORE BY NO. 3 THAN NO. 1.	R. A. JOSEPH

** SOURCE OF DATA: TEST LOG SHEETS - (TESTS PERFORMED, FAILURES, ETC.) GE HMED

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DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
6-26-76	1	HAD NUMEROUS PM MESSAGES: PM164, 258, 269. LOST A/C NO. 4 AND OBSERVED FAILURE JUST PR LIGHT ON FOR CONSOLE POWER SUPPLY SYSTEM WAS SHUT DOWN. INLET FOR A/C NO. 3 DUCT WAS A NO. 4 AND CONSOLE WAS COOL DOWN. RELOADED 'T' AND OVER TEMP LIGHT WENT OFF. OPERATED 2 HOURS AND 44 MINUTES. A/C SHUT DOWN DUE TO BEARING FAILURE, BEARING WAS REPLACED. R LOADING 'T' UNTIL IT WAS NOTICED THAT THE P.S. CIRCUIT BREAKERS WERE TRIPPED ON UNIT 6. A DECAS NOTIFIED SYSTEM WAS DOWN.
6-26-76	2	CAME ON SHIFT WITH 1 AC OUT ON RC SHELTER. USMC AL LENTZ WAS COMPLETING THE REPAIR OF A/C's WERE ON-LINE BY 2018 HOUR. A VERY QUIET NIGHT. NO PM MESSAGES FROM 2052 TO 0350 , S
6-27-76	1	1) DID NOT RECORD A KNOWN FAULTY RPS DURING INITIAL FL RUN. ENABLED MASTER CLEAR BUT CLEARED UP. ONLY INDICATED FAILURES WERE RPS ON RRT 4, 14, 22. 2) ENABLED TAOC FROM 09 STARTED RECEIVING PM 86, PM 94, PM 95 ERRORS. ADJUSTED INTERROGATE TRIGGER. CORRECTI IN 12 RPM MODE FOR (7) SEVEN MINUTES. TRACKED TARGETS OUT PAST 200 N MI. 4) READJUSTED TO 400 CYCLES AFTER 3 HOURS OF OPERATION. 5) AL CHESNEY TAGGED TARGET AT 200 N MI AND VALIDATED AT 219.66 N MI AND 92.8 K FT.
6-27-76	2	EXCEPT FOR USUAL ASSORTMENT OF PM MESSAGES (MAINLY PM 164 AND PM 258), THE SHIFT WAS UN
6-28-76	1	PM MSG's 164 OCCURRING FASTER THAN CAN LOG. TRIED FREQUENCIES NO. 5 AND 3 ALONE. DO NO ON CMD 12 FROM 1310 THROUGH 2610; ONLY VERY FEW MSG's NOW. TAPE WRITTEN WITH CHANGE. U NOTICE. STARTED DAILY SUMMARY OF NUMBER OF PM MSG's AND DATA FROM SUPPLEMENTAL FL WEATHER BIAS CONSTANTS. WENT FROM $W_u = -6$ TO $W_u = W_l = 0$. SOME IMPROVEMENT ON LIGHT THEN TRIED $W_u = W_l = +6$. MORE DRAMATIC IMPROVEMENT. DATA FROM SUPPLEMENTAL FL IN ROW RCVR TEST PATH AMPLITUDE IS CHANGING AGAIN. PROBABLE CAUSE OF PM 258, ETC.
6-28-76	2	SHIFT WENT VERY SMOOTHLY. ONLY 12 P.M. AND MESSAGES AS OF 0700 HOUR. SINCE H. A. BURRIS ON PM 164, THERE HAVE NOT BEEN ANY.
6-29-76	1	CHANGED OIL ON GENERATOR NO. 4. RUNNING WITH 3 AND 4. A RELATIVELY NORMAL DAY. THUND EXPERIENCED IN PM. LIGHTNING STRIKES IN AREA; SEEMED TO CORRELATE WITH INTERMITTENT P INVESTIGATIONS INTO GENERATOR NO. 1 SHOW THAT IT HAS HAD IT FOR THE REST OF THE TEST. O CARRY ANY LOAD. SEE PAGE 63 OF LOG FOR MORE DETAILS.
6-29-76	2	PERFORMANCE TESTS $D_1 + D_6$ AND NORMALIZER, SET 1, MTI APPEARED O.K.. ONE UNEXPECTED O DIESEL NO. 3 OVERHEATED AND CONSEQUENTLY, DROPPED OUT. TURNED ON NO. 2, PARALLELED OPERATED SATISFACTORILY THROUGH THE NIGHT. WHEN IFF GAIN WAS TURNED UP, PM MSG 292 S TURNED IFF GAIN DOWN PM292 STOPPED. CHECKED TAOC SENSOR OUTLINE AND MAP. PERFORMAN NO PM MSG's WERE REPORTED FOR APPROXIMATELY TWO AND ONE HALF HOURS 0200 - 0433. NO PM REPORTED. CONTINUED REPORTING PM258 MSG's AS WELL AS PM61. NO PM 9, 10, OR 11 MSG's WE OTHER THAN PM258, PM68, NO OTHER PM MSG's REPORTED EXCEPT THOSE ASSOCIATED WITH IFF A PERFORMANCE.
6-30-76	1	RUNNING WITH GENERATORS NO. 2 AND 4. GENERATED NEW SPARE PAPER TAPE. REPAIRED GENE SWAPPING RADIATORS WITH GENERATOR NO. 1. REPAIRED GENERATOR NO. 5 BY SWAPPING ELECTR WITH GENERATOR NO. 1.
6-30-76	2	D6 TRANSMITTER STATUS CHECK INDICATES RRT38 SUSPECT - READING 22. CHECKED O.K. 6-30-76 CHANGED WEATHER BIAS CONST. TO $W_u = W_l = +6$. COMPLETED CHECKOUT OF SHELTER COMM - AL (AS PER TAOC INT. PROCEDURES) EXCEPT PPI B VOX NEEDS ADJUSTMENT AND PARA. 3.1.1.6 WAS N MOSTLY PM 258, 61 REPORTING. COUPLE PM 111 (NORMALIZER INOPERATIVE) AND PM 22 REPORTED TRACKED TARGET OUT TO 238 N MI HEIGHT SOMEWHERE BETWEEN 35.5 K FT. AND 52 K FT.
7-1-76	1	RUNNING WITH GENERATORS NO. 2 AND 5, FIRST TIME FOR NO. 5 --- MID SHIFT, GENERATOR NO. 5 AS SET UP, DOWN ABOUT 15%. SYNC LIGHTS O.K. --- NO APPARENT RESULTANT PROBLEMS. AS OF COMPUTER CLASS III FAULT/CLASS I FAULTS. PROBLEMS GETTING BACK ON AIR. ALSO HAD 1538 L NOISE. SHUT SYSTEM DOWN FOR THIS. PROBLEMS GETTING BACK ON ALSO. PM's DOWN SIGNIFICA

CONTINUED

2

AN/TPS-59

NSTRATION TEST ACTIVITY SUMMARY (CONT'D)

JUNE 1976 THROUGH 17 JULY 1976

DESCRIPTION	SHIFT LEADER
T A/C NO. 4 AND OBSERVED FAILURE JUST PRIOR TO OVER TEMP SHUT DOWN. INLET FOR A/C NO. 3 DUCT WAS ATTACHED TO DUCT FOR ND OVER TEMP LIGHT WENT OFF. OPERATED WITH ONE A/C FOR EARING FAILURE, BEARING WAS REPLACED. HAD PROBLEMS RCUIT BREAKERS WERE TRIPPED ON UNIT 6. AFTER THAT O.K..	L. E. BERTZ
C AL LENTZ WAS COMPLETING THE REPAIR OF THE OTHER ONE. BOTH IGHT. NO PM MESSAGES FROM 2052 TO 0350 , SEVEN HOURS.	R. A. JOSEPH
NITIAL FL RUN. ENABLED MASTER CLEAR BUTTON ON MTT. PROBLEM ON RRT 4, 14, 22. 2) ENABLED TAOC FROM 0945 ~1350 HOUR (4 HRS. 5 MIN.). ADJUSTED INTERROGATE TRIGGER. CORRECTED PROBLEM. 3) OPERATED TARGETS OUT PAST 200 N MI. 4) READJUSTED PRIME POWER FREQUENCY AL CHESNEY TAGGED TARGET AT 200 N MI AND 92.8K FT. HEIGHT.	M. I. FOX
MAINLY PM 164 AND PM 258), THE SHIFT WAS UNEVENTFUL.	J. L. PERRY
RIED FREQUENCIES NO. 5 AND 3 ALONE. DO NOT STOP. RAISED THRESHOLD V MSG's NOW. TAPE WRITTEN WITH CHANGE.USE UNTIL FURTHER PM MSG's AND DATA FROM SUPPLEMENTAL FL. TRIED CHANGING D $W_u = W_l = O$. SOME IMPROVEMENT ON LIGHT WEATHER. VEMENT. DATA FROM SUPPLEMENTAL FL INDICATES THAT N. PROBABLE CAUSE OF PM 258, ETC.	H. A. BURRIS
SSAGES AS OF 0700 HOUR. SINCE H. A. BURRIS ADJUSTED THE THRESHOLD	J. L. PERRY
3 AND 4. A RELATIVELY NORMAL DAY. THUNDERSHOWERS EEMED TO CORRELATE WITH INTERMITTENT PM 30's. IT HAS HAD IT FOR THE REST OF THE TEST. ONE PHASE WON'T ETAILS.	R. A. JOSEPH
1, MTI APPEARED O.K.. ONE UNEXPECTED OUTAGE OCCURRED. OPPED OUT. TURNED ON NO. 2, PARALLELED WITH NO. 4 VHEN IFF GAIN WAS TURNED UP, PM MSG 292 STARTED REPORTING. TAOC SENSOR OUTLINEAND MAP. PERFORMANCE APPEARS O.K.. TWO AND ONE HALF HOURS 0200 - 0433. NO PM 164 MSG's WERE WELL AS PM61. NO PM 9, 10, OR 11 MSG's WERE REPORTED. ORTED EXCEPT THOSE ASSOCIATED WITH IFF AND TAOC	H. A. BURRIS
ED NEW SPARE PAPER TAPE. REPAIRED GENERATOR NO. 3 AIRED GENERATOR NO. 5 BY SWAPPING ELECTRONICS PACKAGE	R. A. JOSEPH
SPECT - READING 22. CHECKED O.K. 6-30-76 FL CHECK. OMPLETED CHECKOUT OF SHELTER COMM - ALL O.K. NEEDS ADJUSTMENT AND PARA. 3.1.1.6 WAS NOT ACCOMPLISHED. RMALIZER INOPERATIVE) AND PM 22 REPORTED. RE BETWEEN 35.5K FT. AND 52 K FT.	M. I. FOX
E FOR NO. 5 --- MID SHIFT, GENERATOR NO. 5 NOT SHARING LOAD NO APPARENT RESULTANT PROBLEMS. AS OF 1930, HAD THREE LEMS GETTING BACK ON AIR. ALSO HAD 1538 LOUD DRONING ETTING BACK ON ALSO. PM's DOWN SIGNIFICANTLY.	L. E. BERTZ

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AN/TPS-59
RELIABILITY DEMONSTRATION TEST ACTIVITY SUMMARY (CONT'D
PERIOD FROM 21 JUNE 1976 THROUGH 17 JULY 1976

DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
7-1-76	2	ADJUSTED VOLTAGE AND FREQUENCY OF GENERATORS TO BALANCE THE LOAD BETWEEN THEM. N THE SHIFT --- A VERY QUIET NIGHT. TOOK SOME BLIP/SCAN DATA WITH AND WITHOUT HEIGHT SMO WORK O.K..
7-2-76	1	RUNNING WITH GENERATORS NO. 3 AND 4 . OIL CHANGED ON NO. 2. PICKED UP A FL47 ON FL TAP PERRY WHICH SHOWED CHANNEL 1 TEST SIGNAL GENERATOR OUTPUT BELOW THRESHOLD. THREE BUT ABOVE SPEC. JIM FELT NO PROBLEM. CONTINUED ON WITH TEST. RESUMED TEST WITHOUT I UNINTENTIONAL. DIDN'T GET SYSTEM UP TILL 1000 HOUR. WHILE LOGGING LAPSED TIME METER DIFFERENT NOISE SIGNATURE. OBSERVED AZIMUTH DRIVE GEAR HOUSING WAS LOOSE. NOTIFIED G FOUND FOUR OF SIX MOUNTING SCREWS LOOSE. REMAINING TWO SNUG, BUT NOT TIGHT. SUPPORT CONTACT. SECURED SUPPORT CAMS AND RETIGHTENED SIX SCREWS. ROTATED ARRAY UNDER POW SECURE, BUT OSCILLATORY DRONING NOISE OCCURRED. SECURING CAMS WITH LOOSE HOUSING CAU BETWEEN DRIVE PINION AND BULLGEAR TO TIGHTEN UP SINCE NOT ON HIGH SPOT OF GEAR RUNOUT F. FERRARA (SYSTEM PROJECT ENGINEER) ON IDEA TO FLOAT HOUSING SNUG AND ROTATE ARRAY I WOULD SEEK BEST POSITION AT GEAR TEETH INTERFACE. HE CONCURRED. THIS PROCEDURE WAS BULLGEAR RUNOUT HIGH SPOT WAS NOT AT ACCESS HOLE (NOTE WILL BE ADDED ON DRAWING TO AI RUNOUT WHICH SPOT). ROTATION UNDER POWER WAS RESUMED, NOISE SIGNATURE WAS SMOOTH. BO WILL BE ADDED TO PM MANUAL. SYSTEM DOWN 2 3/4 HOURS FOR THIS PROBLEM. ABOUT ONE HO PERFORM THE ACTUAL WORK ONCE RUNOUT/BACKLASH PROBLEM SOLUTION WAS DECIDED.
7-2-76	2	VERY QUIET SHIFT. LESS THAN A FULL PAGE OF PM MESSAGES FOR THE ENTIRE SHIFT. AT END O DUMPS TO DETERMINE SOURCE OF FL47 MESSAGE. SEE NEXT SUMMARY SHEET FOR RESULTS.
7-3-76	1	DIESEL NO. 4, 5 PARALLELED. DROPPED OUT WHEN STARTING "T" OPERATION. 0856 FL STARTED 0945 GENERATORS DROPPED OUT, 0955 GENERATORS UP - TACTICAL BEING LOADED, 1002 TRANSMI NO FURTHER PROBLEM WITH GENERATORS. FL47 THAT HAS BEEN REPORTED BY FL TESTS IS DUE BEING LOW BY 5 DB; WHEN IT IS SWITCHED INTO THE SET 1 CHANNEL. IF THE DELTA AZIMUTH OR INTO THE SET 1 CHANNEL THE AMPLITUDES ARE CORRECT . IT IS ALSO NORMAL WHEN THE SET 1 F SENT THROUGH THE SET 1 CHANNEL. FL42 SHOWED UP DURING FL TESTS. BANGED ON SIDE OF UN BUT FL47 CAME ON. PROBABLE LOOSE CONNECTOR ON BOARD. ELEVEN PM MSG's RECORDED FRO (2 HOURS 21 MINUTES). FOUR PM MSG's FROM 1223 - 1930 HOUR (7 HOURS 7 MINUTES). THEN ERROR STARTED TAKING D1 D6 DATA. DATA LOOKED SUSPICIOUS, f_2, DECIDED TO TAKE SECOND READING. RESULTED. AT THAT TIME H. BURRIS CAME ON SHIFT AND HE DISABLED f_2, f_3. SEEMED TO FIX C THAT PM MESSAGES DIDN'T START UNTIL D1 D6 ENABLED. MAY BE A COMPUTER PROBLEM.
7-3-76	2	AT THE BEGINNING OF THE SHIFT f_1, f_2, AND f_3 HAD BEEN TURNED OFF BECAUSE PM WAS INDICATIN AT 2106 HOUR TAOC WAS TURNED ON. BEGINNING AT 2225 HOUR, f_5 AND f_6 FAILURES WERE ALSO I ON 7-4-76 DCAS WAS NOTIFIED OF EXCITER FAILURE AND THE X 8 MULTIPLIER AND L.O. AMPLIFIE THE REST OF THE SHIFT WAS UNEVENTFUL EXCEPT FOR SPORADIC PM 257, 258, AND 61 MESSAGES. AND 5 WERE RUN DURING THIS SHIFT.
7-4-76	1	TRANSMITTER STATUS AT 1000 HOUR SHOWED O.K. ON D6 OUTPUT. AT 1611 HOUR GOT PM MESSAGE SIGNAL. D2 SHOWS LFM SIGNAL LOW ALSO. FL AND FLAGS (1258) ---- INDICATED THAT Q INPUT O BROKE SEAL AND READJUSTED AFTER NOTIFYING DCAS. LOADED FL AND FLAG 1258 WAS GONE, BU AFTER PERIOD OF TIME BROKE SEAL ON UNIT 7 AND REPLACED 2A7A1A2A324 BOARD. SYSTEM BACK
7-4-76	2	GENERATOR NO. 3 OVERHEAT LIGHT CAME ON AT 2158 HR. CHANGED OVER TO GENERATOR NO. 4. 2248 HR.-OFF AT 0116 HR. AT 0116 HOUR GOT SERIES OF PM MSG INDICATING POSSIBLE BAD EXCITE SYSTEM OUT WITH LOOP D (EXCITER OUTPUTS) AND COULD FIND NOTHING WRONG. REBOOTED "T" AT 0320 HOUR. (FL ALSO INDICATED MANY STC STATES FAILING.) CROSS EXAMINATION OF PM LIST INDICATE POSSIBLE SET 1 SUBSTITUTION FAILURE IN UNIT 6. ALSO, SEE FLAGS IN LOG. REMAINDE FAIRLY QUIET --- PM 258 AND 257 OCCASIONALLY.
7-5-76	1	FL 155 SHOWED UP IN FL --- GOT LIST 5 FOR ANALYSIS - "T" LOADED. NO PARTICULAR PROBLEMS PM 258's AND PM 10's.

CONTINUED

AN/TPS-59
NSTRATION TEST ACTIVITY SUMMARY (CONT'D)
JUNE 1976 THROUGH 17 JULY 1976

DESCRIPTION	SHIFT LEADER
RS TO BALANCE THE LOAD BETWEEN THEM. NO ANOMALIES DURING IP/SCAN DATA WITH AND WITHOUT HEIGHT SMOOTHING. SEEMS TO	R. A. JOSEPH
NGED ON NO. 2. PICKED UP A FL47 ON FL TAPE; REVIEWED DATA WITH ERATOR OUTPUT BELOW THRESHOLD. THREE OTHER CHANNELS LOW, UED ON WITH TEST. RESUMED TEST WITHOUT DECAS CONCURRENCE, HOUR. WHILE LOGGING LAPSED TIME METER ON ARRAY, DETECTED DRIVE GEAR HOUSING WAS LOOSE. NOTIFIED GOVT. REP. TO CONFIRM. AINING TWO SNUG, BUT NOT TIGHT. SUPPORT CAMS WERE NOT IN IED SIX SCREWS. ROTATED ARRAY UNDER POWER. GEAR HOUSING ED. SECURING CAMS WITH LOOSE HOUSING CAUSED CLEARANCE	L. E. BERTZ
UP SINCE NOT ON HIGH SPOT OF GEAR RUNOUT. CONSULTED WITH TO FLOAT HOUSING SNUG AND ROTATE ARRAY BY HAND SO HOUSING FACE. HE CONCURRED. THIS PROCEDURE WAS USED SINCE HOLE (NOTE WILL BE ADDED ON DRAWING TO ALIGN ACCESS HOLE WITH RESUMED, NOISE SIGNATURE WAS SMOOTH. BOLT TIGHTNESS CHECK 3/4 HOURS FOR THIS PROBLEM. ABOUT ONE HOUR WAS USED TO ASH PROBLEM SOLUTION WAS DECIDED.	
MESSAGES FOR THE ENTIRE SHIFT. AT END OF SHIFT TOOK FL EE NEXT SUMMARY SHEET FOR RESULTS.	R. A. JOSEPH
STARTING "T" OPERATION. 0856 FL STARTED - SYSTEM UP, UP - TACTICAL BEING LOADED, 1002 TRANSMITTING (ON-THE-AIR) THAT HAS BEEN REPORTED BY FL TESTS IS DUE TO THE SUM CHANNEL E SET 1 CHANNEL. IF THE DELTA AZIMUTH OR DELTA EL IS SWITCHED RECT. IT IS ALSO NORMAL WHEN THE SET 1 FINAL RECEIVER IS UP DURING FL TESTS. BANGED ON SIDE OF UNIT 6. FL42 DISAPPEARED, ON BOARD. ELEVEN PM MSG's RECORDED FROM 1002 - 1223 HOUR 1930 HOUR (7 HOURS 7 MINUTES). THEN ERRORS STARTED FLOWING IN. CIOUS, f_2, DECIDED TO TAKE SECOND READING. A FLOOD OF PM MSG's T AND HE DISABLED f_2, f_3. SEEMED TO FIX CONDITION. SUSPICIOUS	M. I. FOX
BLED. MAY BE A COMPUTER PROBLEM.	
BEEN TURNED OFF BECAUSE PM WAS INDICATING THEY HAD FAILED.	J. L. PERRY
T 2225 HOUR, f_5 AND f_6 FAILURES WERE ALSO NOTED. AT 0029 HOUR AND THE X 8 MULTIPLIER AND L.O. AMPLIFIER WERE REPLACED. FOR SPORADIC PM 257, 258, AND 61 MESSAGES. GENERATORS NO. 4	
N D6 OUTPUT. AT 1611 HOUR GOT PM MESSAGE INDICATING LOW SUM FLAGS (1258) ---- INDICATED THAT Q INPUT OF SET 1 WAS FAILED. AS. LOADED FL AND FLAG 1258 WAS GONE, BUT OBTAINED FL235. REPLACED 2A7A1A2A324 BOARD. SYSTEM BACK ON LINE AT 1902 HR.	J. L. PERRY
58 HR. CHANGED OVER TO GENERATOR NO. 4. TURNED "TAOC" ON AT OF PM MSG INDICATING POSSIBLE BAD EXCITER AGAIN. CHECKED COULD FIND NOTHING WRONG. REBOOTED "T" AND BACK ON-LINE ES FAILING.) CROSS EXAMINATION OF PM LIST FIVE FLAGS UNIT 6. ALSO, SEE FLAGS IN LOG. REMAINDER OF NIGHT	H. A. BURRIS
SIS - "T" LOADED. NO PARTICULAR PROBLEMS. NOTED MANY	R. A. JOSEPH

DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
7-5-76	2	COMPUTER HUNG UP TWICE DURING THE SHIFT. FIRST TIME WHEN TAKING D1 D6 DATA COULDN'T IMI HAD TO RESET COMPUTER AND LOAD TACTICAL "T" AGAIN. FOUR MINUTES LOST. SECOND TIME OCC SYSTEM OPERATING DUE TO HIGH FALSE ALARM RATE. COMPUTER LATCHED UP. COULDN'T CLEAR ALL CONTROLS, BUT DIDN'T WORK. FINALLY, SWITCHED OFF POWER TO COMPUTER, SWITCHED ON A UP. CONCLUSION IS THAT SOME ADDRESS COULDN'T BE CLEARED WITH EXTERNAL SWITCHES. NINET MANY FALSE ALARMS BOTH IN BLANKED AND NON-BLANKED REGION. FL FLAGS SET FOR MANY STC A HYPOTHESIS IS X8 MULTIPLIER/AMPLIFIER INTERMITTENT. SEE WRITEUP ON PAGE 100 FOR FURTHER TRACKED TARGET OUT TO 252 N MI AT 57.5 K FT. (LAST VALIDATED HEIGHT). ENABLED TAOC DURIN 2340 - 0319 HOURS (3HOURS 39 MINUTES). AT 0150 HOUR FALSE ALARMS STARTED SHOWING UP IN THE DISABLED f_2, f_3 MODERATE CHANGE. THEN ENABLED f_7 ONLY, PPI TEMPORARILY CLEARED UP OF FA SYSTEM OPERATION AT 0247 HOUR FOR FURTHER TESTING. LOOKED AT 75 MHZ IF INTO UNIT 6 WITH S USING LOOP 5A. CONCLUDED X8, MULTIPLIER INTERMITTENT. SHOOK UNIT, IMPROVED PERFORMAN FURTHER DETAILS. STE 408 STARTED RUNNING OFF WITH MULTIPLE COUNTS. ADJUSTED VOLTAGE R SOLVED PROBLEM.
7-6-76	1	CAME UP O.K. FL155 STILL REPORTING. TOOK LIST 5 FOR ANALYSIS --- SAME FLAGS AS YESTERDAY. GETTING STEADY PM178. BASED ON LAST NIGHT'S BEHAVIOR, ASSUMED SOMETHING WRONG IN EXCITE TOOK PM DUMPS TO GET FLAG LIST FOR ANALYSIS. LOST 20 MINUTES WHEN A/C's 1 AND 2 TRIPPED. AT 1315 HOUR BEGAN DELETING THE LOWER FREQUENCIES TO SEE IF PM178 WOULD GO AWAY. IT DID HE SUGGESTED WE GET A DUMP TO SEE WHAT THE AMPLITUDE OF THE SIGNAL WAS. DELTA AZJ6 WA IS SET AT 0.349854. CALLED PERRY BACK. HE SUGGESTED TAKING 3 DB OUT OF THE ATTENUATION I FINAL RECEIVER. OPENED UNIT 3 --- CHANGED ATTENUATOR SETTING FROM 5 TO 2. "T" RAN O.K. (INITIALLY.) PM DUMP INDICATES DELTA AZJ6 NOW AT 0.44. TOTAL TIME LOST FOR THIS FAILURE — KEPT GETTING PM10's --- STOPPED SYSTEM AT 1751 HOUR TO RUN FL --- GOT LIST 3 AND 5 DUMPS — *(20 MINUTES LOST).*
7-6-76	2	OBSERVED D6 PRINTOUT AT f_2 AND DETERMINED THAT THE FOLLOWING ROW TRANSMITTERS WERE OU 22, 25, 26. AT 0800 HOUR ON 7-6-76 THE FOLLOWING TRANSMITTERS WERE OUT: 4, 7, 14, 17, 22, 25, 29. HENCE, SOMETIME DURING THIS SHIFT ROW TRANSMITTERS/POWER SUPPLIES 12 AND 26 FAILED, BUT USUAL COLLECTION OF PM MESSAGES.
7-7-76	1	RAN ON GENERATORS 4 AND 5. ROW FANS WOULD NOT TURN ON, DETERMINED THAT A SHORT IN TEST USED IN CONJUNCTION WITH THE POWER MODULE TEST BOX WAS THE TROUBLE. DISCONNECTED LEA IN ORDER TO TEMPORARILY SOLVE PROBLEM. LOST TWO HOURS. FAILURE STATUS: TRANSMITTERS 7, 17, 25 — ROW POWER SUPPLIES 4, 12, 14, 22, 26 — SUM RECEI DELTA AZ RECEIVERS 38 THE 3 DB DROP IN DELTA AZ FINAL RECEIVER GAIN NOTED YESTERDAY DISAPPEARED. THE SIGNAL I IS SUBSTITUTED FOR SET 1 ARE APPROXIMATELY 5 DB LOW. TAOC ENABLED FROM 1904 THROUGH 20 USUAL ASSORTMENT OF PM MESSAGES.
7-7-76	2	TAOC ENABLED FROM 2000 TO 2225 HOUR. GROUND WIRE ON THE CHART RECORDER THAT MEASURES DISCONNECTED FOR AN UNKNOWN PERIOD OF TIME. IT WAS REPAIRED AT 2057 HOUR. IT WAS A QUIE PM 258 AND PM 61 MESSAGES.
7-8-76	1	RAN WITH GENERATORS 2 AND 3. FAILURE STATUS AT 0800 HOUR: TRANSMITTERS 7, 17, 25 —ROW POWER SUPPLIES 4, 12, 14, 22, 26 - DELTA AZ RECEIVERS 38 DELTA AZ 2 AND DELTA AZ 4 CHANNELS LOW AMPLITUDE IN UNIT 6. SUM SIGNALS LOW WHEN SUBSTI CHANNEL (UNIT 6). COLLECTED SUM RECEIVER DATA TWICE SINCE WE HAD ABNORMALLY HIGH DATA FIRST TIME. TAOC ENABLED FROM 1200 TO 2000 HOUR. REPLACED BAD FAN 1A11B1. CHANGED W FROM -6 TO +6 AND LOOKED AT DETECTIONS DURING HEAVY WEATHER CONDITIONS. THE NUMBER OF WERE REDUCED FROM 304 TO 188 WHEN WEATHER PROGRAM WAS ENABLED.
7-8-76	2	RUNNING ON GENERATORS NO. 2 AND 3. PM 202 OCCURRED ONCE DURING SHIFT. OTHERWISE THE US PM 262, ETC.

CONTINUED

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AN/TPS-59

ATION TEST ACTIVITY SUMMARY (CONT'D)

1976 THROUGH 17 JULY 1976

RIPTION	SHIFT LEADER
ME WHEN TAKING D1 D6 DATA COULDN'T IMPLEMENT COMMAND --- I. FOUR MINUTES LOST. SECOND TIME OCCURRED AFTER DIAGNOSING OMPUTER LATCHED UP. COULDN'T CLEAR THE MACHINE --- CLEARED OFF POWER TO COMPUTER, SWITCHED ON AGAIN, CLEARED CONDITION LEARED WITH EXTERNAL SWITCHES. NINETEEN MINUTES LOST. ED REGION. FL FLAGS SET FOR MANY STC AND SUBSTITUTION TESTS. T. SEE WRITEUP ON PAGE 100 FOR FURTHER DETAILS. ALIDATED HEIGHT). ENABLED TAOC DURING THE NIGHT ALSE ALARMS STARTED SHOWING UP IN THE SHORT RANGE REGION. NLY, PPI TEMPORARILY CLEARED UP OF FALSE ALARMS. STOPPED . LOOKED AT 75 MHZ IF INTO UNIT 6 WITH SPECTRUM ANALYZER ENT. SHOOK UNIT, IMPROVED PERFORMANCE. SEE PAGE 102b FOR MULTIPLE COUNTS. ADJUSTED VOLTAGE HIGHER ± 125 VOLTS.	M. I. FOX
R ANALYSIS --- SAME FLAGS AS YESTERDAY. AT 1105 HOUR BEGAN IOR, ASSUMED SOMETHING WRONG IN EXCITER. AT 1207 HOUR 20 MINUTES WHEN A/C's 1 AND 2 TRIPPED. (1235 - 1255 HOUR) S TO SEE IF PM178 WOULD GO AWAY. IT DIDN'T. CALLED PERRY. TUDE OF THE SIGNAL WAS. DELTA AZJ6 WAS 0.347656---THRESHOLD D TAKING 3 DB OUT OF THE ATTENUATION IN THE DELTA AZ ATOR SETTING FROM 5 TO 2. "T" RAN O.K. (A LOT OF PM3's 44. TOTAL TIME LOST FOR THIS FAILURE --- THREE HOURS. JR TO RUN FL --- GOT LIST 3 AND 5 DUMPS --- RELOADED "T"	R. A. JOSEPH
IE FOLLOWING ROW TRANSMITTERS WERE OUT: 4, 7, 12, 14, 17,	J. L. PERRY
WERE OUT: 4, 7, 14, 17, 22, 25, 29. RS/POWER SUPPLIES 12 AND 26 FAILED, BUT 29 TURNED ON.	
RN ON, DETERMINED THAT A SHORT IN TEST CABLE THAT IS OX WAS THE TROUBLE. DISCONNECTED LEAD TO 1A5K1 RELAY HOURS. ER SUPPLIES 4, 12, 14, 22, 26 — SUM RECEIVERS 3 —	J. L. PERRY
D YESTERDAY DISAPPEARED. THE SIGNAL LEVELS WHEN SUM W. TAOC ENABLED FROM 1904 THROUGH 2000 HOUR.	
ON THE CHART RECORDER THAT MEASURES TRANSMIT TIME WAS AS REPAIRED AT 2057 HOUR. IT WAS A QUIET SHIFT WITH ONLY	J. L. PERRY
—ROW POWER SUPPLIES 4, 12, 14, 22, 26 –SUM RECEIVERS 3 — 8 IN UNIT 6. SUM SIGNALS LOW WHEN SUBSTITUTED INTO SET 1 CE SINCE WE HAD ABNORMALLY HIGH DATA ON ROW 18 THE REPLACED BAD FAN 1A11B1. CHANGED W_l AND W_u CONSTANTS VY WEATHER CONDITIONS. THE NUMBER OF DETECTIONS AM WAS ENABLED.	J. L. PERRY
D ONCE DURING SHIFT. OTHERWISE THE USUAL PM 258,	L. M. GORDONA

RELIABILITY DEMONSTRATION TEST ACTIVITY SUMMARY (CONTIN
PERIOD FROM 21 JUNE 1976 THROUGH 17 JULY 1976

DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
7-9-76	1	RAN GENERATORS NO. 4 AND 5. EQUIPMENT STATUS AT 0900 HOUR: ROW POWER SUPPLIES OUT TRANSMITTER FAILED 7, 17, 25 — ROW RECEIVERS FAILED SUM 3 – DELTA AZ 4, 38 WEAK FL DATA INDICATED LOW GAIN IN SET 1 CHANNEL AND DELTA AZ FREQUENCY CHANNELS 2 AND 4 L (SECOND ORDER EFFECT IN TACTICAL OPERATION). AT 1744 HOUR GENERATORS ' CIRCUIT BREAK GENERATOR NO. 5 SHOWED SHORT CIRCUIT. OTHERWISE NORMAL COLLECTION OF PM MESSAGES.
7-9-76	2	D6 DATA a f_2 WAS TAKEN AT 2244 HOUR AND ROW 41 APPEARS BAD AND ROW 53 MARGINAL. NORMA A FEW PM257, PM262 MESSAGES.
7-10-76	1	RPS 4, 12, 14, 22, 26 BAD. RRT 7, 17, 25 TX WEAK. SUM RX RRT3, DELTA AZ RX 4, 38 WEAK. FI AT 0845 HOUR. DIESEL DROPPED OUT AT 1200 WHILE TRYING TO CORRECT FOR DIESEL SURGE. POWER ON AGAIN A OPERATION RUNNING AT 1219 HOUR. LOST FIVE MINUTES. STE 408 COUNT GOING "CRAZY" AT 1340 GENERATORS. POWER ON 1345 HOUR. LOST FIVE MINUTES. STE 408 COUNT 826 SINCE 0800. ALMO LAG CONDITION. STABLE FOR APPROXIMATELY 10 - 20 MINUTES, THEN STARTS ACTING UP. NOTE AS 7-9-76. DISABLED STE408 VOLTAGE. LAG AT 1500 EXCEPT FOR PERIODIC CHECKS. COUNT FRO FREQUENCY AND PHASE VOLTAGE APPEAR O.K. CHECK WITH PAUL YOTSONSKY ON MONDAY. MANY PM MESSAGES DURING THE DAY --- NOTABLY PM9, PM10. STARTED TO GET PM178 MESSAGE THIS FREQUENCY SINCE R. JOSEPH MADE ADJUSTMENT TO DELTA AZ CHANNEL. (7-6-76) DECREASE ATTENUATION 3 DB -- SETTING CHANGED FROM 5 TO 2.
7-10-76	2	AT 2330 HOUR ON 7-10-76 WE NOTICED A LOT OF RANGE LIMITED, BUT AZIMUTH EXTENDED WEATH 100 N MI. THE NORMALIZER WAS NOT ABLE TO REMOVE VERY MUCH WEATHER. AT THIS TIME WE PM995 (FLOOD) MESSAGES; SO WE DECIDED TO SENSOR THE WEATHER. AFTER DOING SO, PM11 ME AFTER A NUMBER OF EXPERIMENTS, IT WAS CONCLUDED THAT THE PM 11 MESSAGE WAS RELATE SENSOR GATES. AT 0227 ON 7-11-76 WE INCREASED THE 100 - 200 N MI THRESHOLD (T2) TO 268 IN C PM 995 MESSAGES. AT 0235 WE RAISED SET 1 CONSTANT FROM 55_8 TO 130_8. AT 0315 WE SET T2 BA SET W_u AND W_l TO +6 AND TURNED ON WEATHER PROGRAM. NO MORE PM 995's WERE OBTAINED. INCREASING SET 1 CONSTANT FROM 55_8 TO 130_8 DECREASED DETECTIONS TO COMPUTER FROM 236 DATA TAKEN AT 2148 AT 7-10-76.
7-11-76	1	GENERATORS NO. 4 AND 5 RUNNING. GENERATORS DROPPED OUT AT 1130 HOUR. TOOK A LOOP E1 DAMAGE. GOT MANY PM178's BETWEEN 1243 AND 1259 HOUR. TOOK LIST 5 DUMP OF PM. HOT UN PROBLEM WENT AWAY FOR ABOUT AN HOUR. 1401 HOUR -- GENERATORS DROPPED AGAIN. GEN RAN OUT OF FUEL BECAUSE FUEL PUMP WAS TURNED OFF. GOT OVER TEMP LIGHT ON 5 SO RAN TX STATUS SAYS NO NEW P.S. FAILURES. SET UNIT 3 AGAIN TO GET RID OF PM 178's. SEVERE T MANY PM 995's. CLUTTER SENSOR GATES CAUSE PM11's. A D-5 LIST SHOWED 1273 TARGETS - 627 THE NUMBER OF PM178's FINALLY GOT TO ME. OPENED UNIT 3 AT 1759 HOUR AND CHANGED ATT 1 DB. THIS QUIETED THINGS DOWN.
7-11-76	2	DISABLED STE408 AT 2000 HOUR DUE TO A RUNAWAY CONDITION. COUNT AT TIME WAS 328. MESS REPORTING PRETTY CONSTANT. AROUND 2200 HOURS PM MESSAGE FREQUENCY CAME TO A RATH BOLT. ENABLED STE408 AT 0100 HOUR. COUNT AT 0800 HOUR REMAINED AT 328. SURE DOES SEE PROBLEM WITH THE GENERATORS. CHANGED SOME 30 INDICATOR LAMPS ON DISPLAY. QUIET NI WITH WEATHER DIAL CONSTANT AT +6 REDUCED NUMBER OF DETECTIONS FROM 220 TO 90.
7-12-76	1	SUPPLEMENTAL FL GAVE DELTA AZ $\mathcal{C}_a$ = -1.667. ACTUAL CALCULATIONS SHOWED IT WAS +2.11 – DUE TO SETTING ATTENUATION IN UNIT 3. INVESTIGATED 12 RPM PROBLEM. FOUND BAD 407 BC REPLACED WITH ENGINEERING SPARE S/N 21. RAN FOR 20 MINUTES. EVERYTHING LOOKS O.K.. I AND CONTROL CIRCUITS TEST WITH R.L.***GOT MANY PM 178's AT 1500 HOUR --- STOP "T" AND N FL. DELTA AZ $\mathcal{C}_a$ = 0.317 --- VERY LOW. RECEIVER DATA LOOKED O.K.. RELOADED "T". GOT N PM 178's. VERY QUIET FROM 1519 HOUR ON.

CONTINUED

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/TPS-59

TION TEST ACTIVITY SUMMARY (CONTINUED)
1976 THROUGH 17 JULY 1976

IPTION	SHIFT LEADER
0900 HOUR: ROW POWER SUPPLIES OUT 4, 14, 12, 22, 26 — D SUM 3 - DELTA AZ 4, 38 WEAK TA AZ FREQUENCY CHANNELS 2 AND 4 LOW GAIN AFTER HYBRID 44 HOUR GENERATORS ' CIRCUIT BREAKERS TRIPPED. ORMAL COLLECTION OF PM MESSAGES.	J. L. PERRY
RS BAD AND ROW 53 MARGINAL. NORMAL PM MESSAGES PLUS	J. L. PERRY
RX RRT3, DELTA AZ RX 4, 38 WEAK. FL155 - FROM FL STATUS -	M. I. FOX
' FOR DIESEL SURGE. POWER ON AGAIN AT 1205. TACTICAL STE 408 COUNT GOING "CRAZY" AT 1340 SHUTDOWN TO REBALANCE 3. STE 408 COUNT 826 SINCE 0800. ALMOST ALWAYS VOLTAGE NUTES, THEN STARTS ACTING UP. NOTED SAME CONDITION EPT FOR PERIODIC CHECKS. COUNT FROM 1349 - 1500, 460. ITH PAUL YOTSONSKY ON MONDAY. PM10. STARTED TO GET PM178 MESSAGES. FIRST TIME WITH) DELTA AZ CHANNEL. (7-6-76) DECREASED DELTA AZ	
MITED, BUT AZIMUTH EXTENDED WEATHER CLUTTER BEYOND ERY MUCH WEATHER. AT THIS TIME WE BEGAN TO OBTAIN WEATHER. AFTER DOING SO, PM11 MESSAGES BEGAN. THAT THE PM 11 MESSAGE WAS RELATED TO USING THE 0 - 200 N MI THRESHOLD (T2) TO 268 IN ORDER TO REDUCE THE ROM 55_8 TO 130_8. AT 0315 WE SET T2 BACK TO 13_8 AGAIN, M. NO MORE PM 995's WERE OBTAINED. D DETECTIONS TO COMPUTER FROM 236 TO 121 PER SCAN.	J. L. PERRY
ED OUT AT 1130 HOUR. TOOK A LOOP E15 TX RUN - NO P.S. UR. TOOK LIST 5 DUMP OF PM. HOT UNIT 3 --- -- GENERATORS DROPPED AGAIN. GENERATOR No. 5 . GOT OVER TEMP LIGHT ON 5 SO RAN WITH 2 AND 4. AIN TO GET RID OF PM 178's. SEVERE THUNDERSTORMS. A D-5 LIST SHOWED 1273 TARGETS - 627 PROCESSED. UNIT 3 AT 1759 HOUR AND CHANGED ATTENUATOR BY	R. A. JOSEPH
ITION. COUNT AT TIME WAS 328. MESSAGES WERE MESSAGE FREQUENCY CAME TO A RATHER SUDDEN OUR REMAINED AT 328. SURE DOES SEEM LIKE A TEMP DICATOR LAMPS ON DISPLAY. QUIET NIGHT OTHERWISE. OF DETECTIONS FROM 220 TO 90.	M. I. FOX
CALCULATIONS SHOWED IT WAS +2.11 --- VERY HIGH, D 12 RPM PROBLEM. FOUND BAD 407 BOARD IN DISPLAY. MINUTES. EVERYTHING LOOKS O.K.. RAN CONTROLS 178's AT 1500 HOUR --- STOP "T" AND NON-SUPPLEMENTAL A LOOKED O.K.. RELOADED "T". GOT NO MORE	R. A. JOSEPH
	*** ROGER LAVINE

DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
7-12-76	2	AN UNUSUALLY QUIET NIGHT. STE 408 AGAIN STOPPED COUNTING AT ABOUT ONE HOUR INTO THE SI 2000 HOUR (311). COUNT AT 0720 HOUR 381. ONLY A COUNT OF TWO AFTER 21 HOURS. RAINED DURI DID NOT WITNESS ANY LIGHTNING. ENABLED TAOC AT 0108 HOUR.
7-13-76	1	USED GENERATORS NO. 4 AND 5. EQUIPMENT STATUS AT 0900: ROW P.S. OFF ARRAY 12, 26 — FA 25, 29 — ROW RECEIVERS DELTA AZ 38. FL DATA INDICATES THE SET 1 CHANNEL GAIN IS I CHANNELS IN NORMAL CONFIGURATION HAVE LOW GAIN AFTER HYBRID (THIS HAS SECOND ORDER E PERFORMANCE). MANY PM 257 AND PM 257, 258 MESSAGES ---- OTHERWISE, EQUIPMENT QUIET.
7-13-76	2	GOT SOME WIERD PM MESSAGES -- 182, 179, 187, 188 PLUS PM164's. FINALLY, GOT PM164's SOLID PM164's WENT AWAY --- f_6 AND f_7 PM164's BACK. f_5 AND f_5 AND f_7 → PM164's STILL THERE. f_5 AND f_7 -- PM164's STILL THERE. f_4 AND f_7 -- MORE OF THE SAME. f_3 ALONE --- ALL QUIET f_2, f_3, f_7 -- ALL QUIET. f_2 - f_7 -- ALL QUIET. SOUNDS LIKE HOWARD'S EXCITER PROBLEM. DIDN' IN FALSE ALARMS ON PPI DURING THE ABOVE EXERCISE. COPIOUS QUANTITIES OF 257, 250, 261, 2
7-14-76	1	RAN WITH GENERATORS NO. 2 AND 3. AT THE START OF THE SHIFT A 3 DB PAD IN 4N1A1 WAS SHI OF THE FILTER TO THE INPUT OF THE FILTER THAT IS USED WITH THE X8 MULTIPLIER. THIS GAV OUTPUT AT THE LOWER FREQUENCIES. EQUIPMENT STATUS AT 0900 HOUR: ROW POWER SUPPLIES TRANSMITTER FAILURES 7, 17, 25, 51 --- ROW RECEIVER FAILURES 2 - 3; DELTA AZ 38, 51 MARGI SET 1 CHANNEL LOW. INSTALLED POWER SUPPLIES ON ROWS 26 AND 12 AT 1141 HOUR. ALL POWE OPERATING. AT 1145 HOUR A JAMMING LIKE SIGNAL APPEARED; SUBSEQUENT INVESTIGATION SHO L.O. AMPLIFIER 4N1A2A1 TO BE BAD. IT WAS REPLACED WITH A SPARE. TPX-28 TRANSMITTER H
7-14-76	2	SET 1 DID NOT APPEAR FUNCTIONING DURING SOP-9 TEST. D5 LISTING BEFORE AND AFTER DID NO CHANGES IN THE NUMBER OF TARGETS. THUNDERSTORMS INDICATED ON THE SCOPE AT 160 AND 12 PM MESSAGES PM257, 258, 262 REGISTERED FREQUENTLY DURING THE NIGHT.
7-15-76	1	FL STATUS: TRANSMITTER 7, 17, 25, 51 LOW — SUM RECEIVER 3, 41 LOW — DELTA RECEIVER FL MESSAGE 155 — COMPLETED SOP-8. NOTED INCREASE IN FALSE ALARMS ON PREVIEW RELAT COMPLETED SOP-9. NOTED INCREASE IN FALSE ALARMS AND MULTIPLE DECLARED TARGETS ON E COLLECTED SOP-6 DATA D2, D4, D5, D6 ----- COMPLETED SOP-10 (MTI TEST). NOTED INCREAS IN 0-40 N MI RANGE. PARITY ERRORS ON IFF INPUT DATA. MEASURED POWER OUT OF AN/TPX-28 TAOC AT 1307 HOUR. ENABLED FREQUENCY 1 AT 1345 HOUR. DISABLED FREQUENCIES 5,6, AND 7 TACTICAL "T" AT 1553 TO OBTAIN NEW PHASE (Ø) CAL. TARGET COUNT WENT FROM 250 TO 350, D REGION SIGNIFICANTLY IMPROVED. PM MESSAGES PM 9, 10 CONTINUING AT A HIGH FREQUENCY RA PM 9, NO OCCURRENCE ASSOCIATED WITH HIGH TEMPERATURE OF COMPUTER OR UNIT 7. ATTEMP OF A/C WITH CO_2. DIESELS DROPPED OUT COOLING AIR CONDITIONERS. DIESEL NO. 5 HAD OVER LIT. TURNED AC SHELTER 2 ON AND FANS ON UNIT 7 AIR CONDITIONER. SHELTER 2 CIRCUIT BREA 5 OVERLOAD SHORT CIRCUIT AGAIN. DIESEL POWER ON AFTER 26 MINUTES OF OFF TIME. NOTED HOT FROM ONE END TO THE OTHER. TEMPERATURE IS GREATER THAN 60°C. TOO HOT TO TOUC ATTACHED TO COVER STILL BETTER THAN 55°C AFTER AT LEAST 10 MINUTES. HEAT PROBABLY C LOADING AND INTERNAL HEAT.
7-15-76	2	COMPUTER HAD FAILURES BRIEFLY EARLY IN THE SHIFT. RAN IN 12 RPM MODE FROM 2342 ON 7-1 AND ALSO FROM 0700 ON 7-16-76 TO 0800 HOUR. APPEARED TO BE NORMAL. WHEN WEATHER PRO AND W_u AND W_l SET TO +6, A RING OF FALSE ALARMS APPEARED AT APPROXIMATELY 55 N MI. TH WHEN W_u = -3 AND W_l = -6. BEFORE RUNNING IN 12 RPM, THE GEAR FACE AND GEAR BOX HOUS AND THEY APPEARED TO BE NORMAL. SEE PAGE 194. NORMAL COLLECTION OF PM MESSAGES.
7-16-76	1	AT 0931 HOUR STARTED 12 RPM OPERATION. FL SUMMARY: TRANSMITTER 7, 17, 25, 51 LOW—SU 38 MARGINAL — DELTA RECEIVER 38 MARGINAL — MONO CAL AZ HIGH — FL 155 INDICATED D6 AT f_6 INDICATED ROW 7, 17, 25, 30, 38, 39, 41, 51 LOW. AT 1134 HOUR W_u, W_l CHANGED TO 6, BY A TRIPPED CIRCUIT BREAKER IN UNIT 7. AT 1210 HOUR SYSTEM TACTICAL LOADED - OPERATI AT 1218 HOUR OPERATING IN 12 RPM MODE. AT 1507 HOUR SYSTEM OPERATING AGAIN AT 6 RPM. REQUEST, REBOOTED AFTER TAKING D5 TO WITNESS ANY CHANGE AFTER PHASE CALIBRATION TARGET COUNT: PRE 413, POST 403 --- NO SIGNIFICANT CHANGE. AT 1624 HOUR OPERATING SYSTEM IN 12 RPM MODE.

CONTINUED

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AN/TPS-59
RATION TEST ACTIVITY SUMMARY (CONTINUED)
NE 1976 THROUGH 17 JULY 1976

CRIPTION	SHIFT LEADER
COUNTING AT ABOUT ONE HOUR INTO THE SHIFT. COUNT AT NT OF TWO AFTER 21 HOURS. RAINED DURING THE NIGHT --- 0108 HOUR.	M. I. FOX
T 0900: ROW P.S. OFF ARRAY 12, 26 — FAILED TRANSMITTERS 7, 17, TA INDICATES THE SET 1 CHANNEL GAIN IS LOW AND TWO DELTA AZ AFTER HYBRID (THIS HAS SECOND ORDER EFFECT ON TACTICAL ES ---- OTHERWISE, EQUIPMENT QUIET. S PM164's. FINALLY, GOT PM164's SOLID -- DISABLED $f_2 \rightarrow f_6$ --- AND f_5 AND $f_7 \rightarrow$ PM164's STILL THERE. F THE SAME. f_3 ALONE --- ALL QUIET. f_3 AND f_7 --- ALL QUIET. LIKE HOWARD'S EXCITER PROBLEM. DIDN'T NOTICE ANY INCREASE . COPIOUS QUANTITIES OF 257, 250, 261, 262's.	J. L. PERRY R. A. JOSEPH
F THE SHIFT A 3 DB PAD IN 4N1A1 WAS SHIFTED FROM THE OUTPUT USED WITH THE X8 MULTIPLIER. THIS GAVE SLIGHTLY IMPROVED ATUS AT 0900 HOUR: ROW POWER SUPPLIES OFF ARRAY 12, 26 --- R FAILURES 2 - 3; DELTA AZ 38, 51 MARGINAL --- FL STILL SHOWS ROWS 26 AND 12 AT 1141 HOUR. ALL POWER SUPPLIES ARE PEARED; SUBSEQUENT INVESTIGATION SHOWED THE EXCITER ED WITH A SPARE. TPX-28 TRANSMITTER HAS VERY LOW OUTPUT.	J. L. PERRY
ST. D5 LISTING BEFORE AND AFTER DID NOT INDICATE ANY SIGNIFICANT MS INDICATED ON THE SCOPE AT 160 AND 120 N MI AT 0000 HOURS. LY DURING THE NIGHT.	L. M. GORDONA
RECEIVER 3, 41 LOW — DELTA RECEIVER 38 LOW — EASE IN FALSE ALARMS ON PREVIEW RELATIVE TO POSTVIEW. MS AND MULTIPLE DECLARED TARGETS ON BOTH PPI's AND RHI's. LETED SOP-10 (MTI TEST). NOTED INCREASE IN CLUTTER, PARTICULARLY TA. MEASURED POWER OUT OF AN/TPX-28 AT 4 WATTS. ENABLED HOUR. DISABLED FREQUENCIES 5,6, AND 7 AT 1407 HOUR. RELOADED . TARGET COUNT WENT FROM 250 TO 350, DETECTABILITY IN 80 - 100 N MI 9, 10 CONTINUING AT A HIGH FREQUENCY RATE. ASSUMPTION IS THAT, RATURE OF COMPUTER OR UNIT 7. ATTEMPTED COOLING AIR INTAKE IR CONDITIONERS. DIESEL NO. 5 HAD OVERLOAD SHORT CIRCUIT LIGHT IR CONDITIONER. SHELTER 2 CIRCUIT BREAKER TRIPPED. GENERATOR N AFTER 26 MINUTES OF OFF TIME. NOTED UNIT 4 (EXCITER) COVER 5 GREATER THAN 60°C. TOO HOT TO TOUCH. THERMAL PAPER R AT LEAST 10 MINUTES. HEAT PROBABLY COMBINATION OF SUN	H. A. BURRIS
FT. RAN IN 12 RPM MODE FROM 2342 ON 7-15-76 TO 0600 ON 7-16-76 ARED TO BE NORMAL. WHEN WEATHER PROGRAM WAS ACTIVATED APPEARED AT APPROXIMATELY 55 N MI. THIS RING WAS NOT SEEN RPM, THE GEAR FACE AND GEAR BOX HOUSING WERE INSPECTED NORMAL COLLECTION OF PM MESSAGES.	J. L. PERRY
ARY: TRANSMITTER 7, 17, 25, 51 LOW—SUM RECEIVER 3, 44 LOW— MONO CAL AZ HIGH —— FL 155 INDICATED OW. AT 1134 HOUR W_u, W_1 CHANGED TO 6, 6 AT 1203 PM4 FOLLOWED OUR SYSTEM TACTICAL LOADED - OPERATING IN 6 RPM. OUR SYSTEM OPERATING AGAIN AT 6 RPM. AT 1615 HOUR PER DCASO NY CHANGE AFTER PHASE CALIBRATION ANT CHANGE.	H. A. BURRIS

AN/TPS-59

RELIABILITY DEMONSTRATION TEST ACTIVITY SUMMARY (CONCLUDE
PERIOD FROM 21 JUNE 1976 THROUGH 17 JULY 1976

DATE 2400 HR. TIME	SHIFT NO.	DESCRIPTION
7-16-76 (CONT'D)	1	1927 HOUR - AFTER RECEIVING NUMEROUS PM 9, 10 TURNED SYSTEM OFF TO ALLOW AN/UYK-7 TO CO INVESTIGATE PM 10. 1959 HOUR - SYSTEM RESUMED OPERATING --- THIS TIME IN 6 RPM MODE.
7-16-76	2	AFTER TURNING OFF AN/UYK-7 FOR 32 MINUTES, THE RASH OF PM 9, AND PM 10 MESSAGES THAT OC FIRST SHIFT DISAPPEARED DURING THE SECOND SHIFT. OPERATED AT 12 RPM FROM 2037 HOUR ON 7- ON 7-17-76. THIS TOTALED 24 HOURS AND 13 MINUTES OF 12 RPM OPERATION DURING THE RELIABILI OPERATED WITH TAOC ON FROM 0744 HOUR TO 0805 HOUR. HAD TWO STOPPAGES DUE TO HARDWARE

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TPS-59
N TEST ACTIVITY SUMMARY (CONCLUDED)
76 THROUGH 17 JULY 1976

PTION	SHIFT LEADER
SYSTEM OFF TO ALLOW AN/UYK-7 TO COOL DOWN TO RPM MODE.	H. A. BURRIS
F PM 9, AND PM 10 MESSAGES THAT OCCURRED DURING THE ATED AT 12 RPM FROM 2037 HOUR ON 7-16-76 TO 0405 HOUR PM OPERATION DURING THE RELIABILITY TEST. AD TWO STOPPAGES DUE TO HARDWARE (AN/UYK-7) FAULTS.	J. L. PERRY

APPENDIX P

RELIABILITY DEMONSTRATION TEST
DAILY ACTIVITIES

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 1

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2300	6/21	START RELIABILITY TEST			LEB
		RAN SUPPLEMENTAL FL			
		TAPE (SOP #3), INCL XMIT,			
		REC & MONOPULSE			
2327	6/21	PM 61 was printed twice			JFP
		once at 2327 and once at			
		2330, a PM 000 (all clear)			
		occured at 2331			
2332	6/21	a PM 164 occurred at 2332			JFP
		and at 2334, a PM 000			
		automatically cleared at 2335			
0004	6/22	RAN SOP 6			LEB
0015	6/22	BPI BETACA SELECTED,			
		RAN THRU SOP 12			
0018	6/22	a PM 178 occurred at 0018			JFP
		~~after~~. a rerun command			
		was given at 0020 & error cleared			
0030	6/22	PERFORM SOP 8 - NORMALIZER			LEB
		OFF - NO APPRECIABLE DIFF			
0035	6/22	PERFORM SOP 9 - SET I OFF,			LEB
		OBSERVED INCREASED DETECTIONS			
		& F.A.'S + MDIC			
0040	6/22	PERFORM SOP 10 MTI OFF			LEB
		INCREASE IN CLUTTER RESIDUE			
0045	6/22	RETURN TO PRETEST			LEB
0100	6/22	PM 178 occurred at 0100 &			
		cleared itself at 0102			JHP

L. E. BERTZ } ON @ 2000 6-21-76
SIGNED: V. L. PERRY } DATE

HME 7173 REV. 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 2

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0310		PM 178 Occurred, after a few scans a PM269 & PM 61 occurred. at 0312 a Rerun was initiated.			DRP
0315		PM 178 Occurred followed by a PM 258, Rerun initiated at 0317.			DRP
0319		PM 164 occurred which cleared but was followed by PM 178 & PM258 which was cleared by initiating rerun at 0320.			DRP
0320		PM 258 occurred again followed by PM 178 at 0325, initiated rerun at 0327.			DRP
0329		PM 258 occurred again, indicates Rev Lum signal low at Midlow band			DRP
0347		Initiated rerun, PM 258 occurred at 0349.			DRP
0400		Between 0349 & 0400, PM 258 & PM 61 occurred sporadically until 0400 when a PM000 (all clear) occurred.			
0445		PM 258 CONTINUED DURING PERIOD FROM 0400. PM 269 OCCURRED			LEB

SIGNED: L. E. Beck DATE 6-22-76

REF. 80 00 08 00

HME 7173 REV. 2 75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. DEL DEMO PAGE NO. 3

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0500		Perform SOP 7-Reverse STEP 3			JEB
0545		PM 178 plus sporadic PM 258 & PM 269 occurred since 0445. at 0550 rerun was initiated to clear all PM messages			JEP
0557		PM 61 occurred, it cleared itself at 0559.			JEP
0600		PM 178 occurred; it cleared itself at 0605			JEP
0625		sporadic PM 178, PM 258, & all clears occurred since 0600. At 0625, the 4X ~~Emergency~~ light on the IFF Decoder started flashing & PM 62 & PM 292 occurred. & turned off the Identer at 0643 and the emergency light stopped flashing. After initiating Rerun a PM 59 occurred.			JEP
0647		Turned Identer on again & the 4X Emergency light started flashing again & PM 62 & PM 292 occurred.			JEP

SIGNED: J E Perry DATE 6/22/76

HME 7173 REV. 2 75 REF 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO. PAGE NO. 4

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0730		One PM 178 message occurred since 0647 plus PM 62 & PM 292.			DFF
0738		PM 164 occurred & automatically cleared in a few scans.			DFF
0743		PM 164 occurred & automatically cleared in a few scans.			DFF
0753		PM 164 occurred & automatically cleared in a few scans.			DFF
0800		Turned Power off			DFF
0845 -0912		RUN SUPPLEMENTAL FL Row 17 of 22 TX ONE			~~AM~~
0920		DECREASED GAIN OF TPX-26 TO REMOVE MOD 4 INDICATION ON UPA 60			~~HOG~~
0925		RAN FL 056 FL 361 FL 998			~~HOG~~
		FL 361 Rows 22 PS. FL 998 NON COMPARE ON CR NOISE TEST.			~~AMG~~
0940		CONF T UP & RUNNING			~~KCB~~
0955		System Performance Data Taken			MJ
1000		Post VIEW / PREVIEW SOP 7			MF
1010		Normalizer Test SOP 8 O.K.			MF
		LE Burt off @ 0800 6-22-76			

HME 7173 REV 2-75 SIGNED: DATE

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 5

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
10:15		SET 1 TEST PER SOP 9 O.K.			MF
10:20		MTI TEST PER SOP 10 O.K.			MF
10:25		CONTROLS TEST " SOP 11			
		CLUTTER CENSOR #3 NOT FUNCTIONING			MF
		REASON UNKNOWN.			
		OTHER CONTROL SETTINGS O.K.			MF
1135		RERUN Controls to normal	SOP 12 O.K.		MF
1140		PM '64	RERUN @ 1141		HB
1158		PM 164	" " 1159		HB
1209		TEST OFF LINE WITH 153B			HB
1215		PM 164			HB
1215		PM 300			HB
1224		PM 164	RERUN @ 1225		HB
1235		Log sheet + #2 Data			MF
		Taken - Ambient/A/C etc,			
		Status			
1249		PM 164	RERUN @ 1250		MF
1250		PM 164	" @ 1252		MF
1256		PM 258			MF
1300		PM 164	" @ 1301		MF
1302		PM 258			MF
1303		PM 258			MF
1305		PM 164	@ 1306 RERUN		MF
1306		PM 258			MF
1307		PM 258			MF
1308		PM 300			MF
1813		PM 458			MF
1818		PM 258			MF

SIGNED Mort Fox DATE 6/22/76

HME 7173 REV 2-75 REF 80 CO 08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. ANITPS-54 TEST SPEC. REL. DEMO PAGE NO. 6

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1319		PM 000			MF
1327		PM 164	@ 1328 RERUN		MF
~~1328~~		VOID			"
1330		PM 164	RERUN @ 1331		MF
1338		PM 164	RERUN @ 1339		MF
1342		" "	" @ 1343		MF
1357		PM 164	" @ 1358		~~HAS~~
1415		PM ~~TEST~~ 269	" @ 1416		MF
1422		PREVIEW / POSTVIEW SW. OVER	Switched PPI A/		MF
		OBSERVED DISPLAY DIFFERENCES. O.K	PPI B AND TAOC A		
		(SOP 7) (NONE) EXCEPT	AND TAOC B.		
		RAI PICKED UP DIFFERENT SET			
		OF TARGETS			
1432		PM164	RERUN @ 1433		MF
1437		Disable f1 to try	CUT NEW paper		
		and get rid of PM164 Msgs.	tape to operate on		
1439		Back on with f2 - f7	f2 - f7		MF
~~1448~~		PM 164	Rerun @ 1449		~~HAS~~
1503		PM 269	" @ 1504		~~HAS~~
1508		INCREASED GAIN OF TNK-25 VIDEO TO CHECK OPERATION OF			~~HAS~~
1551		PM 164.	RERUN @ 1551.5		~~HAS~~
1555		PM 164	" @ 1556		~~HAS~~
1612		PM 164	" @ 1613		MF
1642		PM 164, 269	RESET ITSELF		MF
1650		PM 164	RERUN @ 1651		MF
1718		PM 269	~~@~~		MF
1725		PM 164	@ 1726		MF

SIGNED: Mort Fox DATE 6/22/76

HME 7173 REV 2-75 REF 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Ref. Demo. PAGE NO. 7

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1732		TPX 28 Taken off-line			MF
1734		PM 164	Rerun 1733		MF
1757		PM 164	" 1758		MF
1807		PM 164, PM 000, PM 164	Typed in Time Only		MF
		PM 000.			
1822		PM 164 PM 000, PM 164	No action taken		MF
		PM 000	cleared itself at		
			1825		
1842		PM 269	Rerun 1843		MF
1852		IKE KING - IFF MALFUNCTION	" 1853		MF
		Maintenance on TPX-28			
		being performed - PM 59	Ra		
1854		PM 59	" 1854		MF
1856		PM 59	" 1857		MB
1904		PM 59	" 1905		MF
1931		PM 292	R 1932		MB
1931		PM 62	" "		MB
1950		PM 292	" 1951		MB
2002		PM 164	" 2003		MB
2010		A. Burris & M. Fox OFF DUTY			
2010		J Perry & L Buff on Duty			
2025		PM 269	Rerun 2027		DFP
2052		PM 269			DFP
2054		PM 000 followed immediately by			DFP
		PM269. ~~Frequency~~ error noted on STE 408	DF		
		at this time also.			

SIGNED: Mort Fox / JF Perry DATE 6/22/76

HME 7173 REV. 2-75 REF. 80 00 08 07

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO PAGE NO. 8

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2055		PM000			DFP
2110		PM 164	Rerun 2111		DFP
2118		PM 164	Rerun 2120		DFP
2144		PM 269	Rerun 2145		DFP
2155		PM 995 followed by PM000	Mistakenly turned		DFP
			off both MTI &		
			Normalizer on Postvisi		
			Display		
2155		Performed Normalizer Test;			DFP
		noted increase in False			
		Alarms with Normalizer off.			
2200		PERFORMED SET 1 - OK			LEB
2205		PERFORMED MTI TEST - OK			LEB
2212		PM269	Rerun 2213		DFP
2310		PM 164	Rerun 2311		DFP
2330		COMPLETED CONTROL EXERCISE;			
		NO PROBLEMS INDICATED.			
		CLUTTER SAMPLE #3 WORKING			LEB
2347		PM 269	RERUN 2347		LEB
2353		Lost power from Generators			
		STE 408 spewed paper			
		all over floor so shut it off.			
		There were approx 25			
		errors when we lost power.			
0050		System back on air,			DFP
		checked transmitter status			
		with E-15 program also.			
		Reset STE 408 also.			

-57 min

SIGNED: D F Perry DATE 6/23/76

REF. 80 00 08 07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 9

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0050		PM 258, PM 262, PM 61	Rerun at 0051		JFP
0052		PM 258, PM 61	Rerun at 0058		JFP
0100		PM 258	Rerun at 0101		JFP
0101		PM 258	Rerun at 0101		JFP
0103		PM 258	Rerun @ 0103		EB
0106		PM 292 & PM 61	Rerun @ 0106		EB
0107		PM 000 & 292	" @ 0107		EB
0118		Since starting the system at 0050, 19 Freq. errors have been indicated	JFP		JFP
0118		PM 164 & PM 61	Rerun at 0118		JFP
0131		PM 257 & 258	Rerun at 0132		JFP
0133		PM 258	Rerun at 0134		JFP
0134		PM 258	" " 0133		
0139		Parity Error on IFF Input Data	Rerun at 0140		JFP
0140		PM 258. 32 (Freq) errors since 0050.	Rerun at 0141		JFP
0142		PM 258	Rerun at 0143		JFP
0144		PM 258, 262, 258	Rerun at 0145		JFP
0146		PM 258	" " 0146		EB
0147		PM 258	" " 0147		EB
0149		PM 258 (2) 262	" " 0149		EB
0152		PM 258	" " 0152		EB
0156		PM 258 9	" " 0156		EB
0200		ERROR COUNT OF FREQ - 44			EB
0222			Rerun at 0222		JFP
0223		PM 258			JFP
0227		PM 257, 258			

SIGNED: J F Perry DATE 6/23/76

HME 7173 REV. 2-75 REF 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 10

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0228		PM 258			DSP
0245		PM 257, 258			DSP
0246		PM 258			DSP
0253		collected D2, D4, & D5 data			DSP
0319		PM 258, 61			DSP
0320		PM 258			DSP
0428		FREQ Error Count - 52			DSP
0505		FREQ ERROR COUNT 52			LEB
0515		PPI A, TAOC B			LEB
0515		PM 258 & PM 000			LEB
0612		PM 258 & PM 292	Return at 0612		DSP
0613		PM 258 & 262 then PM 258			
0645		PM 000 & 258			LEB
0648		PM 258 & 269			LEB
0700		FREQ ERROR COUNT -59			LEB
0718		PM 258			LEB
0800		FREQ ERROR COUNT 61			LEB
0800		PERFORM D1 & D6			LEB
0800		SHIFT SIGNING OFF	LE Bell		
0801		SHUT SYSTEM OFF			LEB
0807		Transmitters 3 & 4 on line -	RAJoseph/R.M.Vanderwerker		RAJ
		Rcvr, IOU Suppressed FL-			
		TX [illegible]	[illegible] 3 PL 795 & 361 (1 of 2)		
0925		System on air	(Action 2 (only Ant. no.))		RMV
0930		PM 292	[illegible]		RMV
0937		[illegible]	[illegible]		RMV
0937		PM 258			RMV
[illegible]		PM 257, 258, [illegible]	[illegible]		RMV

SIGNED: L E Bell DATE 6-23-76

HME 7173 REV. 2 75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&I Comm. PAGE NO. 11

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0943		Rockwood [illegible] TPX-28			KHJ
0945		PM 263, 262			KHJ
0954		FM 164	Rerun @ 0955		KHJ
0956		FM 258, 262			KHJ
1003		FM 164	Rerun @ 1005		KHJ
1006		PM [illegible]			KHJ
1025		PM 258			LMH
1030		Exercised Normalizer, SET 1, MTI,			
		and Controls from 0935–1030			
		Norm: No noticable increase in FA			
		SET 1: Noticable increase in multiple			
		DTMS with Set 1 off.			
		MTI: Increased clutter evident with			
		no MTI.			
		CONTROLS: All functioning normally			
		except Censor Zone #3.			
		Outline appears normally but			
		no censoring of targets is evident.			LMH
1041		FM 164	Rerun @ 1041		KHJ
1052		FM 164	Rerun @ 1052		KHJ
1108		FM 269			KHJ
1120		FM 164	Rerun @ 1120		KHJ
1137		FM 164	Rerun @ 1137		LMH
1153		PM 269			LMH
1158		FM 190	Rerun @ 1158		KHJ
1200		PM 100 207, 208, 209, 210, 93	Rerun @ 1201		KHJ
1202		11	Rerun @ 1204		KHJ
1204		11	Rerun @ 1208		KHJ

SIGNED: Ronald H Joseph DATE 6/23/76

HME 7173 REV. 2-75 REF 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 12

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1210		Collecting List 5 data on "T".			
		"Antenna" and "Sensitivity" DISABLED.			
		Radar appears to be behaving normally.			
		Tagged target in excess of 200 miles.			
		TAOC is off & I/O is not enabled (PM 93 ???)			RHJ
1213		Re-booting "T"			RHJ
1214		PM 100, 207, 208, 209, 210, 93			RHJ
1216		Shut down "T"			RHJ
1223		Ran FL - frequencies 2-7 - FL 577 → 577			
		Repeated FL - frequencies 1→10 - FL 562			
		∴ Bad Exciter — Called Howard Burris			RHJ
1300		Loaded Loop E 5 A & put power meter on L.O. output of UNIT 4 (J6) - cycled through 1 Freq.			
		Freq / Level (dbm)			
		1 25.81			
		2 27.26			
		3 27.77			
		4 25.04			
		5 28.17			
		6 28.63			
		7 28.88			
		8 28.81			
		9 28.58			
		10 28.53			RHJ
1320		Ran UUT portion of FL supplemental			RHJ
		Output was ≈ 0.5 dB below this morning's run			

SIGNED: Ronald H. Joseph DATE 6/23/76

HME 7173 REV 2 75 REF 80 00 00 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 13

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1330		Ran RCVR Test - RCV Amplitudes OK -			
		Test path amplitude ≈ 9dB down from			
		this morning's Run.			RAG
1340		Ran Loop 5A (S2) Looked at power out of J8			
		of exciter. - -8.61 dBm	- still ≈ 9dB below expected		RAG
1408		Broke Seal on unit 4			
		Pulled N1A4 measured input & output of			
		amplifier w/ 5A running -	input - -42.6 dBm		
		output - +4.4 dBm - gain - 47.1 dB.			RAG
1455		Measured N1A3 J3 - +23.2 dBm (should be +18.5?)			
		" N1A3 J6 - -8.3 dBm } (should be +9 dBm)			
		" N1A4 CP2 - -7.8 dBm }			
			4/1.8 data cycle		RAG
1513		Adjusted variable attenuator ahead of amplifier on			
		N1A4 - increased CP2 output by 6.4 dB - still			
		down by 1.7 dB			RAG
159		Ran Rcvr Test to check test path amplitude.			
		Amplitude still down ≈ 2-3 dB from this			
		morning's run.			RAG
1530		Ran FL again. FL 42	Σ + jΔAz low		
		look's like we've picked up enough to pass on Σ			
		signal alone, but not on the ΔAz path.			
		Still haven't found the cause of the loss in signal.			RAG
1725		After much measuring of signal path losses, replaced			
		mixer Z2 on N1A3 board. Appeared to notice			
		a 5dB improvement.			RAG
1745		Noticed that the 75 MHz signal coming over			
		from the shelters was about 10dB low.			

SIGNED: R. Orodel A. Forsyth DATE 6/23/76

HME 7173 REV. 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 14

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1745		Measured signal loss through 200 ft. of cable. Also soldered two connectors to the semirigid cable on the N/A3 board. The apparent loss in signal disappeared!!			RHG
1830		Put original N/A3Z2 Mixer back. Measured J8 output vs frequency (STI/I using Loop E 5A)			
		Freq — Pwr (dBm)			
		1 +.06			
		2 0			
		3 −.11			
		4 −.16			
		5 −.19			
		6 −.23			
		7 −.28			
		8 −.32			
		9 −.29			
		10 −.23			RHG
1845		Ran Rover Test - TEST PATH Amp. 220.			RHG
1850		Ran TX test TX 17 & 22 out.			RHG
1855		Ran FL - got AN intermittant	FL 42		RHG
		Took list 3 & list 5 dumps -			
		Threshold set at 30 -	failed at 29.72		
		after 22 cycles.			RHG
1910		Reran FL - got FL STOP	after 64 cycles.		RHG
1917		Start "T" PROGRAM	& faulted on STE408		LMG
1925		System in Pause to reseal Unit 4			LMG
1930		Restart "T"			LMG

SIGNED: Lee M Mordaunt DATE 6/23/76

HME 7173 REV. 2/75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 15

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1930		PM 995			LMH
1932		PM 995			LMH
1933		Clear			LMH
1934		PM 995			LMH
1934		PM257, PM258, P995			LMH
1935		PM257, PM258, P995			LMH
1937		REBOOT "T" PROGRAM Due to Computer H'dware Failure Lite			LMH
1940		Restart Tactical Program			LMH
1948		PM164	Rerun @ 1948		LMH
1957		PM164, PM258	Rerun @ 1957		LMH
1954		PM258			LMH
2000		PM164	Rerun @ 2000		LMH
2000		PM258 H Gunis on Duty			LMH
2021		PM164	" " 2022		HHG
2025		PM 995 } NORMALIZED +	(NO CORRECTIVE ACTION)		
2026		PM 000 } SET I OFF ON	PPI B w/TAOC B Ref.		HHG
2037		PM 164	Rerun @ 2032		HHG
2041		TAOC ENABLED			HHG
2043		PM 89	" @ 2043		HHG
2045		PM 89 ADJUSTING TAOC CLOCK	NO ACTION		
2052		PM 164	Rerun @ 2052		GEL
2054		PM 89	NO ACTION 1538		GEL
2059		PM 89, 98, 95	NO ACTION 1538		GEL
2100		PM 258 89, 98, 95 - PM 258, 89 Pgm	Rerun @ 2104		GEL
2105		PM 89	NO ACTION 1538		GEL
2109		PM 164 - PM89	Rerun @ 2110		GEL
2112		PM 258, 89	Rerun @ 2113		GEL
2114		PM 258, 89	Rerun @ 2114		GEL

SIGNED: H. A. Gunis DATE 6/23/76

HME 7173 REV 2/75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 16

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2115		PM 89 & 258	No Action		AEL
2119		PM 89	No Action		AEL
2120		PM 164 (SP, A-C disabled)	No Action		AEL
2121		PM 89 (SP, A-C Green)	Reset 2125		AEL
2029		ALL TADC MSG'S ABOVE WERE RESULT OF NOT			
		HAVING TADC CLOCK ADJUSTED PROPERLY			
2136		PM 164, 61	Reset at 2136		
1150		PM 61			
2151		PM 000 & PM 61			
2152		PM 000			
2214		PM 164	Reset @ 2218		
2240		Performed normal test per TOPS indications normal			
2245		Performed SOF Maint per TOPS			
2335		PM 164	Reset @ 2335		
0018		PM 164 & PM000	"		
0019		PM 164 "			
0031		PM 269	NO ACTION 1538		
0042		PM000, PM269	NO ACTION 1538		
0043		PM000			
0100		PM 258, PM000, PM 258, PM000, PM 258, PM000 NO ACTION 1538			
0117		PM 258	NO ACTION 1538		
0118		PM 000 PM 258	" " "		
0120		PM 258	" " "		
0125		PM 000 PM 258	" " "		
0126		PM000			
0130		PM 258, PM000, PM258, PM000	" " "		
0148		PM 258	Reset 0148		

SIGNED: _____ DATE 6/20

HME 7173 REV 2/75

REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 17

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0149		1000, PM 258	Reset 0149		HB
0151		PM 258	" 0151		HB
0205		PM 164	" 0205		HB
0207		" & PM 258	" 0207		HB
0208		PM 258	" 0208		HB
0210		"	" 0210		HB
0213		" 164	" 0213		HB
0229		PM 258, PM061	" 0229		JAK
0237		PM 258	" 0237		JAK
0243		PM 258, PM000, PM 258	" 0243		HB
0250		PM 258	" 0250		JAK
0252		PM 258	" 0252		JAK
0300		PM 258	" 0300		JAK
0301		PM 258, PM 061, PM 258	" 0301		JAK
0317		PM 164	" 0317		JAK
0329		PM 495, PM 000	No Action		JAK
0337		PM 258, PM 000, PM 258	No Action taken		JAK
0338		PM 000	No Action taken		JAK
0340		[illegible]	Reset @ 0340		JAK
0345		DISABLED Frequency 6			JAK
0347		PM 258			JAK
0347		Enabled Frequency 6			JAK
0356		PM 258	Reset @ 0356		JAK
0357		PM 258	No action taken		JAK
0357		PM 258, PM 061	No action taken		JAK
0357		PM 258	" "		JAK
0401		PM 000, PM 258	" "		JAK
0405		PM 000, PM 258, 0416 G	" "		JAK

SIGNED: [signature] DATE 6/12/1

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 18

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0400		PM 044 PM 164	No Action		JAK
0407		PM 258	No Action		JAK
0410		PM 258, PM 269	No Action		JAK
0428		PM 133, PM 258, PM 269			JAK
		PM 117, PM 258, PM 269			JAK
0429		Rerun			JAK
0430		PM 142			JAK
0430		Rerun			JAK
0437		PM 145, PM 142, PM 147			JAK
		PM 154, PM 147			JAK
0457		PM 154, PM 147			JAK
0457		Rerun			JAK
0440		PM 154, PM 147, PM 061			JAK
0440		PM 154, PM 145, PM 145			JAK
0440		PM 270			JAK
0441		PM 269, PM 270			JAK
0450		PM 245, 269, 270	No Action		JAK
0455		[redacted]	"		JAK
0520		PM 060, PM 269	"		JAK
0521		PM 060	"		JAK
0540		(AM MISS LIKE INDICATIONS ON PPI DISPLAY			AB
		FREQ 2, 4, 5, 6, 7 NO CHANGE NOTED ON PPI			
		OPERATED W/O AT BLANKING GEN #3 LOAD			
		INDICATOR LIGHTING			
0547		ENABLED FREQ 2, 4, 5, 6, 7			JAK
0632		PM 258	No Action		JAK
0622		PM 258 & PM 61	"		JAK
0624		PM 258	"		JAK

SIGNED: [signature] DATE 6/24

HME 7173 REV 2/75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Fol. Demo PAGE NO. 19

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0636		PM 16.9	NO ACTION		HG3
0635		PM ~~0700~~ 1.5% ? MSD LIGHTS CLEARED w/o PM 000			HG3
0717		PM 164	NO ACTION		HG3
0718		PM 258	"		JMC
0730		PM 164	"		JMC
0731		PM 258	"		JMC
0745		HARDWARE FAULT IN COMPUTER	Prime voltage error		JMC
0755		Reload T in computer Bank on Line			HG3
0757		FM 258	No action		JMC
0804		Terminate "T" 6/24/76	L. Gordon / R. Joseph		LMG
0805		Loaded FL			LMG
0808		X-Band on duty			
0815		System down for PM			LMG
0845		System Powered up (Gen 1 & 4)			LMG
0850		Loaded Supplemental FL — no change in Tx & Rx STATUS			LMG
0915		Loaded FL tape			LMG
0930		FL 998 - fault message - got a LIST 3;			
		LIST 5 dump - Flag 170 set, but not a			
		normal fault pattern. Flag 170 is subpulse 4			
		A = d.f. channel low.			LMG
0935		Loaded "T"			
		We're getting copious errors from The prime power-			
		monitor - appears to be a problem in paralleling			
		1 & 4			KJG
0945		Put "T" in "PAUSE" while Loo adjusted generators.			
		Still did not alleviate problem.			KJG
1006		PM 164	Reboot @ 1006		KJG
1015		Put T into PAUSE - More adjustments to gen			KJG

SIGNED: Robert A Caspe DATE 6/24/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 20

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1025		Running with Gens #2 & 4 -- oil leak in			
		gen #1.			RAG
1028		Restarted T - no more power faults			
		Reset counter after 55.3 error messages!			RAG
1035		PM 164	Rerun @ 1035		RAG
1038		PM 164 No Action			RAG
1040		PM 000 - PM 164 No Action			RAG
1042		PM 000 - PM 164 - PM 000	No Action		RAG
1050		Power monitor fault (1)			RAG
1100		Power monitor fault (1)			RAG
1103		PM 164			RMK
1104		PM000, PM 164			RMK
1105		PM000	No Action		RMK
1109		Power Monitor Fault (1)			RMK
1112		" " " (1)			RMK
1114		PM 164 - No Action			RMK
1117		PM 269			RMK
1118		PM 164			RMK
1120		Ran SOP #6			RMK
1121		PM269			RMK
1155		PM 164 - No Action			RAG
1157		PM 269			RAG
1201		PM 164			RMK
1203		PM 269			RMK
1205		3 Power Monitor Faults			RMK
1208		PM 164 PMC1			RMK
1210		PM 269			RMK
1212		PM 11	Rerun @ 1212		RAG

SIGNED: Ronald A Gough DATE 6/24/76

HME 7173 REV. 2/75 REF. 80.00.08.07 P-21

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 21

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1219		Power Monitor Fault (1)			
1221		PM 11	ReRun @ 1221		
1222		PM000, PM 11	ReRun @ 1222		
1222		PM000			
1225		Completed SOP's #7 - 12 - No Anomalies in			
		7-10 - No visual verification of DEFRUIT control			
		Height VALIDATE heights do not necessarily agree			
		with READ OUT LIGHTS - CLUTTER SENSOR gate #3			
		inoperative -			
1230		PM164			
1232		PM000			
1245		PM264			
1247		Power Monitor Fault (1)			
1249		Power Monitor Fault (1)			
1251		PM264, PM995			
1313		PM164			
1317		PM269			
1321		P000 & P269	No Action		
1322		P000 & PMcan	"		
1326		PM 8 & 269 No 269 again	"		
1335		PM000, PM264	"		
1508		PM 10	Rerun @ 1508		
1533		PM 269			
1546		PM 995, 269			
1548		Power Mon Fault Count = 35			
1630		PM 164	No Action		
1632		PM 269			
1656		PM 164	No Action		

SIGNED: [signature] DATE 6/24/76

HME 7173 REV 2 75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 22

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1701		FM 000, 164, 269	No Action		KAG
1702		FM 000			KAG
1711		PM 269			KMH
1717		PM 164			KMH
1723		PM 269			KMH
1734		PM 000, PM 269			KMH
1735		PM 030			KMH
1737		PM 164			KMH
1739		PM 269			KMH
1805		PM 000, PM 269	Re Run @ 1805		KMH
1806		Power Monitor Faults = 39			KMH
1821		PM 164	NO ACTION		KAG
1822		PM 000, PM 164	No Action		KAG
1823		PM 000			KAG
1832		PM 164	Rerun @ 1832		KAG
1835		PM 164	Rerun @ 1835		KAG
1842		ACU-SSPDC NON-SYNC; SYSTEM OFF AIR (TRANSMIT)			KMH
1850		REBOOT "T" SYSTEM BACK ON	TRANSMITING		KMH
1854		PM 164	NO ACTION		KAG
1855		PM 000, PM 164			KAG
1856		PM 000			KAG
1900		PM 164	No Action		KAG
1903		PM 000, PM 164	No Action		KAG
1904		PM 000, PM 164	No Action		KAG
1905		PM 000, PM 164	No Action		KAG
1906		PM 000			
1907		PM 164	No Action		KAG
1914		PM 000, PM 164	No Action		KAG

SIGNED: Ronald A Joseph DATE 6/24/76

HME 7173 REV. 2/75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 23

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1915		PM000, PM164, PM300		-	GEZ
1917		PM258	No Action		GEZ
1920		PM000, PM258, PM164	No Action		GEZ
1921		PM000, PM164	No Action		GEZ
1922		PM258	No Action		GEZ
1925		PM000, PM258	No Action		GEZ
1926		PM000			GEZ
1931		PM258	No Action		GEZ
1932		PM164	No Action		GEZ
1934		PM000, PM164	No Action		GEZ
1935		PM000, PM164	No Action		GEZ
1936		PM000			GEZ
1940		PM164	No Action		GEZ
1942		PM000, PM164	No Action		GEZ
1943		PM300			GEZ
1943		PM258, PM164, PM258	No Action		GEZ
1947		PM164	No Action		GEZ
1950		PM258	No Action		GEZ
1951		PM258, PM269	No Action		GEZ
1952		PM164	No Action		GEZ
1956		PM258	No Action		
2000		PM164 (FOX, ZENITH ON SHIFT)	No Action		M.F.
2002		PM164			M.F.
2003		PM164	No Action		GEZ
2004		PM300			GEZ
2006		PM000, PM164	No Action		MFE
2007		PM300, PM164	" "		MFE
2012		PM164, PM005	No action		GEZ

SIGNED: Mort Fox DATE 6/24/76

HME 7173 REV 2/75 REF 80.00.08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 24

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2021		PM 000, PM 164	No Action		
2022		PM 000			
2023		PM 258	No Action		
2024		PM 000 PM 258	No Action		
2025		PM 000			
2026		PM 164	No Action		
2026		PM 000	"		
2029		PM 164	"		
2030		PM 000, PM 164	"		
2031		PM 000			
2033		PM 164, PM 258	No Action		
2034		PM 000, PM 258, PM 000	"		
2037		Collected System Performance Data			
2038		PM 258	No Action		
2040		PM 000 PM 258	No Action		
2041		PM 000			
2043		PM 164	No Action		
2047		PM 000, PM 164			
3048		PM 258, PM 000			
2049		PM 258			
2050		Completed Normalizer Test (O.K)			
2050		PM 000, PM 258			
2051		PM 000			
2051		PM 164			
2052		PM 258			
2055		SET 1 Completed (O.K)			
2100		MTI Test Compl - Looks Good			
2105		PM 258, PM 269	No Action		

SIGNED: [signature] DATE 6/24/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 25

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2107		PM258	No Action		MF
2110		PM000, PM258	" "		MF
2111		PM000			MF
2117		PM164	N. A.		MF
2119		PM000, PM164	N. A		MF
2120		PM000	" "		MF
2124		PM164	" "		MF
2125		PM000, PM164			MF
2126		PM000	No Action		MF
2127		PM164	No Action		MF
2129		PM000, PM164	No Action		MF
2130		PM000	No Action		MF
2134		PM258	No Action		MF
2135		PM000, PM258	No Action		MF
2137		GEN. MONITOR - 3 CYCLE			
2139		PM61	No Action		GEZ
2140		PM258, PM269, PM61	No Action		GEZ
2141		PM258, PM269	No Action		MF
2145		PM164	No Action		GEZ
2147		PM258, PM269	No Action		GEZ
2150		PM258	No Action		GEZ
2152		PM164	No Action		GEZ
2153		PM258	No Action		GEZ
2205		PM164	No Action		GEZ
2206		PM258			
2210		TURNED OFF SYSTEM - STE 408			MF
		OUTPUTTING ERRORS CONTINUOUSLY			
		Training			

SIGNED: M. F. Fox DATE 6/24/74

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 26

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2210		FREQ ≥ 398 CPS	SHUT DOWN DIESEL		MF
(Cont'd)		Diesel #4 had more acting up	#4. TURNED UP		
		during previous shifts. Continued	DIESEL #1 #1		
		getting error messages from STE 408.	AND #2 NOW		
		Paper ran out. Problem assumed	Paralleled, Loaded		
		with STE 408. Shut Down STE 408.	TACTICAL Program.		
			Line voltage adjusted		
			TO APPROX 118-120 V.		
2310		System OPERATING - Displays look good.			MF
2315		PM257, 258	No Action		MF
2324		PM164	No Action		MF
2325		PM 258	No Action		MF
2340		PM 164	No Action		MF
2342		PM 258	No Action		MF
2346		PM 257, 258	No Action		MF
2348		PM 258	No Action		MF
2353		PM164	No Action		MF
2355		PM 258	No Action		MF
2355		PM 995, PM258			
2356		PM 995, PM 258, PM 995, PM 258			
		PM 995, PM 258	No Action		MF
2357		PM 995, PM 191, PM 995, PM 191			
		PM 995, PM 191, PM 995, PM 191	Rerun @ 2357		MF
2358		PM 258	No Action		MF
0004		Series of PM 995's + PM 258's	Rerun @ 0004		MF
0006		PM 258, 262, 258	Rerun @ 0006		MF
0008		PM 258	No Action		MF
0028		PM 995, PM 258 (3)	No Action		MF

SIGNED: Marion D. Fox DATE 6/24/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Rem. PAGE NO. 27

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0030		PM995, PM258 (4)	PM995, PM258		MF
0031		PM257, PM258	has occurred when		
			disabling MTI, Then		
			Normalizer, This		
			condition has occurred		
			three times,		
0032		PM258	No Action		MF
0038		PM 257, PM 258	NO ACTION		JAK
0040		PM 258	NO ACTION		JAK
0042		PM 257, PM 258	NO ACTION		JAK
0047		PM 164	NO ACTION		JAK
0048		PM 257, PM 258	NO ACTION		JAK
0049		PM 258	NO ACTION		JAK
0059		PM 257, PM 258	No Action		MF
0100		PM 258	NO ACTION		JAK
0117		PM 257, PM 258	No Action		MF
0123		PM 258	No action		MF
0128		PM 258, PM 261	No action		MF
0129		PM 258	No action		MF
0133		PM 257, PM 258	No action		MF
0135		PM 257	No action		MF
0140		PM 257, PM 258	No action		MF
0142		PM 258	No action		MF
0145		PM 257, PM 258	No action		MF
0147		PM 258	No action		MF
0150		PM 257, PM 258	No action		MF
0151		PM 258	No action		MF
0153		PM 257, PM 258	No action		MF

SIGNED: Neal Fox DATE 6/25/82

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. CN/TDS-59 TEST SPEC. A.C. Cond. PAGE NO. 28

SER. NO. XV-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0154		PM 254	No action		MJ
0156		PM 257, PM 258	No action		MJ
0158		PM 258	No action		MJ
0200		PM 257, PM 258	No action		JAK
0201		PM 258	No action		JAK
0205		PM 257, PM 258	No action		JAK
0207		PM 258	No action		JAK
0210		PM 000, PM 258	No action		JAK
0211		PM 000	No action		JAK
0230		PM 164	No action		JAK
0232		PM 000, PM 164	No action		MJ
0232		PM 000	No action		MJ
0235		PM 164	No action		JAK
0236		PM 000, PM 164	No action		JAK
0236		PM 000	No action		JAK
0246		PM 257, PM 258	No action		JAK
0312		PM 258	No action		JAK
0328		PM 254, PM 258	No action		JAK
0335		PM 258	No action		JAK
0335		PM 164	No action		JAK
0337		PM 254	No action		JAK
0348		PM 257, PM 258	No action		JAK
0349		PM 258	No action		JAK
0356		PM [illegible]	No action		MJ
0357			Removed		MJ
0400		PM 258	No action		MJ
0410		PM 257, PM 258	No action		MJ
0412		PM 255	No action		MJ

SIGNED: [signature] DATE 6/25/76

HME 7173 REV 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. An/FPS-54 TEST SPEC. K.T. Tape PAGE NO. 29

SER. NO. XA-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0435		PM 000, PM 258	No Action		JAK
0436		PM 000	No Action		JAK
0438		PM 258	No Action		JAK
0440		PM 257, PM 258	No Action		JAK
0443		PM 258	No Action		JAK
0444		PM 257, PM 258	No Action		JAK
0445		PM 258	No Action		JAK
0519		PM 257, PM 258	No Action		JAK
0520		PM 258	No Action		JAK
0610		PM 000, PM 258	No Action		JAK
0611		PM 000	No Action		JAK
0613		PM 258	No Action		JAK
0630		PM 000, PM 258	No Action		JAK
0634		PM 000	No Action		JAK
0654		PM 258	No Action		JAK
0655		PM 257, PM 258	No Action		JAK
0656		PM 258	No Action		JAK
0710		PM 257, PM 258	No Action		MF
0712		PM 258	No Action		MF
0715		PM 258, PM 61	No Action		MF
0717		PM 258	No Action		MF
0723		PM 164	No Action		JAK
0725		PM 258	No Action		JAK
0805		Shut down System for			MK
		Lunch + Shutdown period			
0810		For Men off duty			MF
		Long Warm up			

SIGNED: Monte Fox DATE 6/25/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO PAGE NO. 30

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0928		all FL & Supplemental FL			JFP
		data taken & system on air			
0929		PM 258			JFP
0930		PM 164	Rerun		JFP
0937		PM 258			JFP
0952		PM 000 PM 952			
0953		PM 000			
0954		PM 164	RERUN		
1000		Found Pwr Recorder had been			
		off approx. 2 hrs. ∴ missed			
		approx 32 min. of ON Time.	TURNED ON		
1000		STARTED RUNNING SOP 7-12			
1023		PM 000, PM 164	RERUN		
1041		PM 164	RERUN		
1055		PM 164	RERUN		
1117		Increased Voltage from Generators			JFP
		ϕ_A = 125V ϕ_B = 124V ϕ_C = 123V.			
		Error count was 667 Reset			
		error counter.			
1120		COMPLETED SOP 7-12. No Noticeable			
		difference with Normalizer OFF.			
		Height Validate heights do not agree			
		with readouts. Clutter Sensor			
		GATE #3 inoperative.			
1133		SOP 6 DATA TAKEN			
1136	*	TO 12 RPM MODE			
1146		PM 258			JFP
1150		PM 164	Rerun		JFP

SIGNED: J F Perry DATE 6/25/76

REF 80 00 08 02

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. _____ TEST SPEC. _____ PAGE NO. 31

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1151		PM 164			JLP
1152		PM 257, PM 258			JLP
1153		PM258			JLP
1231		PM258, PM161			[illegible]
1233		PM258			[illegible]
1234		PM 258, PM161			[illegible]
1236		PM258			[illegible]
1240		PM258, PM61			[illegible]
1242		PM258			[illegible]
1247		PM258, PM126			[illegible]
1307		PM164	RERUN		[illegible]
1308		039 Faults on 408 and increasing			[illegible]
1309		RESET COUNTER on 408 to 000			[illegible]
1309		PM258			[illegible]
1343		PM 164 PM258			JLP
1344		408 reads 391 faults	COUNTER RESET TO 000		[illegible]
1344		SYSTEM IN "PAUSE" DUE TO GENERATOR Faults	GENERATOR #1 PULLED OFF LINE. GEN #3 PUT ON LINE W/ #2		[illegible]
1345		Collected data on 12RPM & Cross Gate 3 Problem			[illegible]
1403		SYSTEM BACK OPERATIONAL			[illegible]
1405		PM 142, 146, 151, 150, 156, 164			[illegible]
1405		PM 164, 258			[illegible]
1408		PM000, 258			[illegible]
1418		PM 258, 61			[illegible]
1419		PM258			[illegible]
1432		PM164	RERUN		[illegible]
1433		PM194			[illegible]

SIGNED: J L Perry DATE 9/25/76

REF. 80.00.08.07

HME 7173 REV 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 32

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1434		PM 195, 258			
1442		PM 258			
1443		PM 164	RERUN		
1444		PM 258, 262, 258			
1454		PM 164	Rerun		DFF
1456		PM 258			DFF
1503		PM 258, 61			
1505		PM 164	RERUN		
1510		Evaluated data dumped at 1345 to find cause of detecting targets beyond 200 miles in 12 RPM mode. A dump of Display State Messages indicate display is telling computer the 6 RPM Mode is being selected. The minimum elevation value for Error Gate 3 is 8.01° even though the pot is set for 0°.			DFF
1512		PM 257, PM 258			DFF
1514		PM 258, PM 164, PM 258			DFF
1520		PM 164			DFF
1522		PM 000			DFF
1533		PM 164	RERUN		
1534		PM 2, 150, 156, 164			
1534		PM 164	RERUN		
1535		PAUSE	TO 6 RPM MODE		
1536		SYSTEM BACK OPERATIONAL			

SIGNED: J F Perry DATE 6/25/75

HME 7173 REV 2-75 REF. 00 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 33

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1544		PM164	Rerun		JLP
1545		PM 164	Rerun		JLP
1547		PM 258			JLP
1550		PM 252, 258			MC
1554		PM 164	Rerun		REF
1555		PM164	Rerun		REF
1556		PM164, PM258	Rerun		REF
1557		PM164	Rerun		MC
1600		PM 258	Rerun		REF
1602		PM164	Rerun		REF
1603		PM 258	Rerun		REF
1605		PM 164	Rerun		REF
1606		PM 258	Rerun		REF
1609		PM258	Rerun		REF
1611		PM258	Rerun		REF
1612		PM258	Rerun		REF
1614		PM258	Rerun		REF
1615		PM 258	~~Rerun~~ Aux		REF
1616		Pause to Change Paper			REF
1620		RUN			REF
1625		PM258	No Action		REF
1636		PM164	Rerun		REF
1638		PM258	No Action		REF
1639		PM000, PM258	No Action		REF
1652		PM164	Rerun		REF
1654		PM 258	No Action		REF
1656		PM164	Rerun		REF
1658		PM 258	No Action		REF

SIGNED: J L Perry DATE 6/25/76

REF. 80.00.08.07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. KEL DEMO PAGE NO. 34

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1659		PM000, PM258, PM164	Rerun		
1702		PM258	No Action		
1703		PM000, PM258	No Action		
1704		PM000			
1706		PM164	Rerun		
1707		PM164	Rerun		
1713		PM164	Rerun		
1717		PM 164 PM 257 PM258	Rerun		
1717		appears to be blanking IFF from 270° to 90°. Turned up gain on TPX-28 to obtain IFF reports.			
1719		PM258	No Action		
1732		PM164	~~No Action~~ Rerun		
1734		PM258	No Action		
1748		PM 164 PM258 PM164	Rerun		
1750		PM 164	Rerun		
1754		PM 164 PM258 PM164	Rerun		
1800		PM 258			
1804		PM 000, PM258, PM000			
1805		PM164	Rerun		
1806		PM258			
1809		PM000, PM258, PM164	Rerun		
1813		PM164	Rerun		
1815		PM258			
1817		PM 164	Rerun		
1820		PM 258			
1824		PM 000, PM 258			

HME 7173 REV 2 75

SIGNED: J F Ferry REF. 80.00.08.07 DATE 6/25/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 31

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1825		PM000, PM164	Rerun		GEK
1826		PM258			RL
1832		PM164	Rerun		GEK
1836		PM258			GEK
1837		PM000, PM258			GEK
1838		PM000			GEK
1840		PM164, PM 258	Rerun		GEK
1844		PM258			GEK
1846		PM000, PM258			GEK
1847		PM000			GEK
1849		PM164	Rerun		GEK
1850		PM164, PM258	Rerun		GEK
1852		PM258			GEK
1853		PM000, PM258			GEK
1854		PM000			GEK
1855		PM164	Rerun		GEK
1856		PM164	Rerun		GEK
1858		PM164	Rerun		GEK
1900		PM164	Rerun		GEK
1901		PM258			GEK
1904		PM000, PM258			GEK
1906		PM000			GEK
1907		PM164	Rerun		GEK
1917		Reset STE40F @ 1,216			GEK
1921		PM258			GEK
1924		PM000, PM258			GEK
1926		PM000, PM258			GEK
1927		PM000			GEK

HME 7173 REV 2/75

SIGNED: J F Ferry REF. 80.00.08.07 DATE 6/25/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 36

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1927		PM164	Rerun		
1940		PM 258			
1942		PM 000 PM258			
1943		PM000			
1943		PM 164	Rerun		
1947		PM164	Rerun		
1954		PM164	Rerun		
1958		PM164	Rerun		
2000		PM258			
2004		PM 000			
2005		Perry off duty R.J. Joseph / L. Gordona			
2013		PM 258			
2014		PM000, PM258			
2015		PM000			
2016		PM164	Rerun		
2025		PM164	Rerun		
2035		PM164	Rerun		
2042		PM258			
2044		PM000			
2045		PM 258			
2047		PM000			
2048		Began SOP tests			
2052		PM164	Rerun		
2102		PM164	Rerun		
2105		Completed SOP Tests 6, 8, 9, 10	Check O.K.		
2106		PM164 PM258	Rerun		
2139		PM164	Rerun		
2232		PM164	Rerun		

SIGNED: R.J. Joseph DATE 6/25/76

HME 7173 REV 2 75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 37

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2326		PM 164	Rerun		RSL
2333		SHELTER GP2 (SHELTER ELECTRONICS) PM 4			RMH
		BREAKER TRIPPED INITIALLY. ALSO UNIT #6 BREAKER.			
2336		RESET SHELTER ELECTRONICS OK			RMH
		ATTEMPTED RESET OF UNIT 6 BREAKER			
		CAUSED ARC IN UNIT 6. BREAKER WOULD			
		NOT RESET.			
2337		SYSTEM DOWN – power off ARRAY ONLY			RMH
2340		Called STAN BLASZKOW (LaVine unavailable)			
		Awaiting arrival of DCAS before breaking seal			RAJ
0012		Broke seal on UNIT 6 – examined interior –			
		found no visible indication of arcing or other			
		damage – ATTEMPTED TO RESET BREAKER – BREAKER			
		RESET OK. – CLOSED UP CABINET			RAJ
0045		Loaded T – got message that RTC incrementing			
		incorrectly – checked +5 V BREAKER ON ARRAY			
		– BREAKER WAS TRIPPED – RESET IT – Rebooted			
		T – got a PM 22, PM 257, PM 258.			
		No indication of RADIATION on RECORDER			
		TOOK D6 printout – TX STATUS OK –			
		FOUND WIRE off wire wound RESISTOR on RECORDER (PROBABLY			
		WHEN the BROUGHTON shelter door WAS opened).			
		RECONNECTED – RECORDER OPERATING PROPERLY			RAJ
0100		Resealed UNIT 6			RAJ
0106		PM 000, 257, 258	NO ACTION		RAJ
0107		PM 258 ... PM 000			RAJ
0113		PM 258	NO ACTION		RAJ
0114		PM 000, PM 258			RAJ

SIGNED: Ronald A Joseph DATE 6/26/76

HME 7173 REV 2/75 REF. 80 00 06 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Dems. PAGE NO. 38

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0114		PM 000			RAG
0512		Took a D6 Tx Status to see if PM was			
		still alive !!			RAG.
0545		PM 257, PM 258	NO ACTION		JAK.
0547		PM 258	"		RAG
0549		PM 257, 258	"		RAG
0551		PM 258	"		RAG
0553		PM 257, 258	"		RAG
0554		PM 258	"		RAG
0556		PM 257, 258	"		RAG
0558		PM 258	"		RAG
0600		PM 257, 258	Rerun 0600		RAG
0602		PM 258	NO ACTION		JAK.
0608		PM 257, PM 258	"		JAK
0610		PM 258	"		JAK
0613		PM 257, PM 258	"		JAK
0614		PM 258	"		JAK
0620		PM 257, PM 258	"		JAK
0622		PM 258	"		JAK
0624		PM 257, PM 258	"		JAK
0625		PM 258	"		JAK
0628		PM 257, PM 258	"		JAK
0629		PM 258	"		JAK
0631		PM 257, PM 258	"		JAK
0637		PM 258	"		JAK
0643		PM 257, PM 258	"		JAK
0644		PM 258	"		JAK
0705		PM 257, PM 258	"		JAK

SIGNED: Ronald A Kopec DATE 6/26/76

HME 7173 REV. 2/75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 39

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0706		PM 258	NO ACTION		JAK
0720		PM 257, 258	"		KHJ
0723		PM 258	"		KHJ
0730		Shut down T. equipment - 68 power monitor faults since 0545.			KHJ
0735		Tried paralleling #1 & #3 to see if 1 is working ok. Load sharing on #3 than #1, but appears normal otherwise	Phase B is more		RHJ
0740		Powered down equipment			RHJ
0800		L E Belt, On 6-26-76 / also A. Cleary			LEB
0825		GEN ON - RUNNING SUR FL. TAPE, RTC SWITCH NOT ON INT @ BEGINNING OF TEST (GT)			
0830		RERUN GT ROWS 4, 14, 17 & 22 OUT. RUN POLARIZER & MONOPULSE & TACTICAL FL			LEB
0912		T-LOADED, SYSTEM ON AIR (2)			LEB
0915		PM 258 #61	NO ACTION		LEB
0919		PM 257, 258 #61	" "		LEB
0921		PM 258 #61	" "		
0920		RUN SOP #6			LEB
0921		PM 258 #61	NO ACTION		LEB
0923		SOP #6 COMPLETED			LEB
0925		PM 164	RERUN		LEB
0926		PERFORM SOP #7			LEB

SIGNED: L E Belt DATE 6-26-76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. P&L TEST PAGE NO. 40

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0826		PERFORM SOP 8 - OK			LEB
0920		PERFORM SOP 9 - OK	SLIGHT INC.		LEB
0935		PERFORM SOP #10 - OK			LEB
1015		PM 164	RERUN OK		LEB
1036		PM 164	RERUN OK		LEB
1043		PM 292(2) #61	RERUN OK		LEB
1050		PM 164	RERUN		LEB
1100		COMPLETE SOP 11			LEB
1102		SET UP SOP 12			LEB
1106		PM 164	RERUN OK		LEB
1129		PM 269	NO ACTION		LEB
1133		PM 164	RERUN - OK		LEB
1204		PM 269	NO ACTION		LEB
1215		PM 258 & 269	NO ACTION		LEB
1217		PM 258	NO ACTION		
1231		PM000, 258	"		
1232		PM000	"		
1233		PM 258	"		
1234		PM 258 & PM000	"		LEB
1234		COMPLETED DAILY LOG SHEET 2			LEB
1234		GO TO TAOL A & PP1 B			LEB
1235		PM 000 & PM 258	NO ACTION		LEB
1237		PM000 & PM 258	" "		LEB
1243		PM000 & PM 258	" "		LEB
1245		PM000, 258	" "		
1301		PM 164	RERUN		LEB
1312		PM 164	RERUN		
1332		PM 292	RERUN		

SIGNED: L E. Beck DATE 6/26/76

HME 7173 REV. 2/75 REF 80 00 08-07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Test PAGE NO. 41

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1334		PM164	RERUN		
1412		PM164	NO ACTION		
1413		PM258	" "		
1416		PM258,269	" "		
1440		PM258	" "		
1454		PM264	RERUN		
1455		PM264	"		
1454		PM258	NO ACTION		
1459		PM000,258	" "		
1460		PM000,258	" "		
1504		PM258	" "		
1507		PM258	" "		
1515		PM000,258	" "		
1520		PM164	RERUN		
1522		PM258	NO ACTION		
1523		PM000,258	" "		
1524		PM000	" "		
1527		PM258	" "		
1528		PM000,258	" "		
1531		PM258	" "		
1532		PM000,258	" "		
1538		PM164 - NOTICED A/C #4 OUT	RERUN		
1539		PM20 COMPLETELY	RERUN		
1540		PM20	"		
1555		PM20	"		
1602		SHUT SYSTEM OFF -	P.S. OVERTEMP LIGHT ON		
		FIFTH NAME ON DECAS			
		SHEET BOB DESTEFANIS NOTIFIED			

SIGNED: L. E. Bell DATE 6-26-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 42

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1720		TRYING TO BRING T UP,			LEB
		FOUND ANALOG A/D CONV			
		CB TRIPPED			
1734		LOADED, SYSTEM ON - DURING			LEB
		PROGESS OF LOADING, & CAL WOULD			
		NOT COMPLETE P.S. 1, 2, 6 & 7			
		IN UNIT 6 CB'S TRIPPED			
		SYSTEM NOW RUNNING WITH			
		ONE A/C ON SHELTER 3. P.S. OVERTEMP			
1745		STE 408 COUNT UP TO 80	LIGHT OFF		LEB
		WAS "O" PRIOR SHUT DOWN			
1810		RAN D-6 PROGRAM			LEB
1815		PM269	NO ACTION		LEB
1824		PM164	RERUN		LEB
1825		PM164	"		LEB
1834		PM164	RERUN		LEB
1840		PM164	"		LEB
1846		ERROR ON IFF PARITY	NO ACTION		LEB
1906		PM164	RERUN		LEB
1919		PM10	Rerun		LEB
1922		PM2-8	No Action		LEB
1925		PM164	Rerun		LEB
1927		PM9, PM10	Rerun		LEB
2000		L.E Beck Signing out	L. Toulouse / R. Joseph		
2005		PM12	RERUN @ 2006		RJ
2010		PM3			LMW
2011		PMOCO			RJ
2018		Both AC's working - Bearing replaced			RJ

SIGNED: L E Beck DATE 6-26-76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 43

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2028		Error on IFF Parity -	NO ACTION		RAJ
2030		PM 164	Rerun 2030		RAJ
2039		PM 164	Rerun 2039		GEL
2052		PM 292	Rerun 2052		GEL
2105		Completed SOP 6			GEL
2110		Completed SOP 8 - Checks OK.			GEL
2115		Completed SOP 9 - Check O.K.			GEL
2120		Completed SOP 10 - Checks O.K.			
		Returned Consoles to Normal Configuration			REJ
0000		Reset power monitor counter —	197 faults indicated		RAJ
0350		PM 258	NO Action		RAJ
0352		PM 000	"		RAJ
0354		PM 258	"		JAK
0356		PM 000	"		JAK
0402		PM 258	"		JAK
0426		PM 257, PM 258	"		JAK
0428		PM 258	"		JAK
0432		PM 257, PM 258	"		JAK
0458		PM 258	"		JAK
0507		PM 061	"		JAK
0517		PM 257, PM 258	"		JAK
0522		PM 257, PM 258, PM 262	"		JAK
0523		PM 257, PM 258	"		JAK
0609		IFF PARITY ERROR	"		RAJ
0610		PM 257, 258	"		RAJ
0610		PM 258	"		RAJ
0613		PM 257, PM 258	"		RAJ
0615		PM 258	"		RAJ

SIGNED: Ronald A. Joseph DATE 6/27/76

HME 7173 REV. 2/75 REF. 80.00.08(07)

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 44

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0617		PM 257, PM 258	No Action		RAG
0623		PM 258	"		RAG
0624		PM 257, PM 258	"		JAK
0627		PM 257, PM 258, PM 61	"		JAK
0628		PM 258, PM 61, PM 258	"		JAK
0631		PM 257, PM 258	"		JAK
0658		PM 258	"		JAK
0659		PM 257, PM 258	"		JAK
0700		PM 258	"		JAK
0702		PM 257, PM 258	"		JAK
0704		PM 258	"		JAK
0707		PM 257, PM 258	"		JAK
0708		PM 258	"		JAK
0710		PM 257, PM 258	"		JAK
0712		PM 258	"		JAK
0714		PM 257, PM 258	"		JAK
0716		PM 258	"		JAK
0722		PM 257, PM 258	"		JAK
0724		PM 258	"		JAK
0730		PM 257, PM 258	"		JAK
0732		PM 258	"		JAK
0745		PM 257, PM 258	"		JAK
0746		PM 258	"		JAK
0800		Powered down - 296 power monitor faults			RAG
0801		K. Wojcik / J. Gordon, Off. Shift			347
		W. Hill, K. Burris, A. Chaney, On. Shift			
0845		Completed Generator #2, #4 start procedure			JAK

SIGNED: Mark Fox DATE 6/27/76

HME 7173 REV. 2/75 REF. 80 00 08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 45

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0845		Ran Simp Incrtal Tape Transf Receiver, and Monocal Status Per S.O.P. DCAS & WITNESSED			MF
0910		Ran FL tape, FL did not recold P.S. fault although RTS OFF/RT	Re-run FL		MF
0912		FL Step-Msg To 1538 replete	Checked UNIT 5 PS Voltages, C.O. OK		MF
0922		Re Run FL	Hit Master Clear Button on MTT.		MF
0924		Fault Msg. - ~~RDS~~ RPS 4, 14, 22 Load PM 998			MF
0933		"T" Loaded & started			[illegible]
0934		PM 257, 258			[illegible]
0940		PARITY ERRORS ON IFF DATA INPUTS			[illegible]
0942		PM 258			[illegible]
0945		PM 257, 258			[illegible]
0945		TAOC ENABLED			[illegible]
0948		PM 258, PM 86, PM 94 PM 95	Re-run @ 0949		MF
0950		PM 258	TELEGRAPH TRIG NOT ADJUSTED PROPERLY RE-ADJUSTED		[illegible]
0951		Eq. Op. Dig. Proc. Dept., Comp. Dept., Computer Dept, Rem Dept	Took Data		MF

SIGNED: Mort Fox DATE 6/27/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 76

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0959		PM252, PM 258			MF
0959		SOP #7 Completed			MF
1000		PM 258			MF
1008		SOP 8 OK			
1012		PM 164	ReRun 1012		
1017		PM164	RERUN		
1018		PM164	RERUN		
1020		PM86	RERUN		
1025		SOP 9 OK			
1027		PARITY ERRORS ON IFF DATA INPUTS			
1029		SOP 10 OK			
1030		PM164	RERUN		
1034		PM164	RERUN		
1037		PM164	RERUN		MF
1044		PM 292	RERUN		
1045		PM86	RERUN		
1049		PM164	RERUN		
1049		SOP 11 - CLUTTER SENSOR GATE			
		#3 DOES NOT CENSOR			
1051		PM164 PM161			MF
1053		PM164	RERUN 1053		
1055		PM164	Rerun 1055		MF
1057		PM164	RERUN 1057		MF
1100		PM164	ReRun 1100		
1101		PM164	rerun 1101		
1105		PM164	Rerun 1105		
1107		PM164	Rerun 1107		MF
1110		PM164	Rerun 1110		MF

SIGNED: M. D. Fox DATE 6-27-76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Lons PAGE NO. 47

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1116		PM164	Rerun @ 1116		MF
1119		PM164	Rerun		
1124		PM164	Rerun @ 1124		MF
1126		PM164	Rerun @ 1126		MF
1128		PM 85, 86 (TAOC ERRORS)	RERUN		
1130		STE 408 COUNTER RESET TO 000	FROM 086		
1130		PM164	RERUN		
1134		PM164	Rerun		
1135		FREQ HAS NOW BEEN TURNED UP TO			
		400 c on Generators			
1135		PM11	RERUN		
1136		PM164	Rerun		
1139		PM164	Rerun		
1141		PM164	Rerun		
1142		PM258			
1149		PM164	Rerun		
1150		PM258			
1225		Pm 164	rerun		
1227		"	"		
1228		PM 258			
1310		PM 258			
1309		PLACED SYSTEM IN 12 RPM			MF
		mode. Tracked Target out passed			
		200 n mi			
1316		Operating in 6RPM mode.			MF
1317		PM 258			MF
1318		PM 164	RERUN		MF
1319		PM 258			

SIGNED: Mont Fox DATE 6-27-76

HME 7173 REV 2/75 REF. 80.00.08.07

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 48

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1319		Switched TAOC A, PPI B			MF
1322		PM 164	Rerun @ 1322		MF
1323		PM 258, PM 86	Rerun @ 1323		MF
1324		PM 164, PM 258	No action		MF
1327		PM 23	Rerun @ 1327		MF
1328		PM 258	Rerun @ 1328		MF
1330		PM 164	Rerun @ 1330		MF
1331		PM 164, PM 258	No action		MF
1334		PM 164, PM 258	No action		MF
1336		PM 164	Rerun @ 1336		MF
1337		PM 258			MF
1341		PM 61			MF
1344		PM 258			MF
1348		PM 164	Rerun		MF
1350		TAOC DISABLED VIA 1538			MF
1350		PM 258	No Action		MF
1352		PM 164	Rerun		MF
1353		STE 408 - Appears to			MF
		be a voltage lag problem.			
		Count 48			
1353		PM 238	Rerun		MF
1405		PARITY ERRORS ON DEF DATA INPUTS			MF
1406		PM 164	Rerun		MF
1407		PM 258	"		MF
1410		PM 164	Rerun		MF
1411		PM 164, 258			MF
1413		PM 164	Rerun		MF
1415		PM 164, 258			MF

SIGNED: M. J. Fox DATE 6/27/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Test PAGE NO. 49

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1433		PM164	Rerun		
1434		PM258			
1435		PM164	Rerun		
1440		PM258			
1449		TAGGED TGT AT 220 RMI + 928 Ft X100,			
		HIT HI VALIDATE, + got readout			
		of 219.66 RMI + 928 Ft X100			
1445		PM164, 258			
1447		PM164, 258			
1453		PM164	Rerun		
1454		PM 258			
1459		PM164	Rerun		
1500		PM258			
1507		PM139, PM164, PM164	Rerun		MF
1510		PM 258			MF
1512		PM 164	Rerun		MF
1513		PM 258			MF
1524		PM 111, PM 61	Rerun		MF
1524		PM 61			MF
1527		PM 258			MF
1529		PM 164	Rerun		MF
1535		PM 258			MF
1535		PM 164	Rerun		MF
1537		PM 258			MF
1543		PM164	Rerun		KZ
1544		PM164, 259			DC
1549		PM164	Rerun		MF
1550		PM 258			MF

SIGNED: Mike Foy DATE 6/27/76

HME 7173 REV. 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 50

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1552		PM 164	Rerun		MF
1553		PM 258			MF
1556		PM 164	Rerun		MF
1557		PM164, PM258	No Action		MF
1604		PM164, PM258	No Action		MF
1610		PM 164	Rerun		MF
1610		PM 258	No Action		
1618		PM 164	Rerun		
1619		PM 258	No Action		
1621		PM 164	Rerun		
1622		PM 258	No Action		
1625		PM 164	Rerun		
1626		PM 258	No Action		
1628		PM 164	Rerun		
1629		PM 258	No Action		
1630		PM 164	Rerun		
1631		PM 258	No Action		
1633		PM 164	Rerun		
1635		PM 164	Rerun		
1635		PM 258	No Action		
1644		PM 164	Rerun		
1648		PM 164	Rerun		MF
1650		PM 258			MF
1651		PM 164	Rerun		
1652		PM 258			MF
1655		PM 164	Rerun		
1656		PM 258			
1702		PM 164	Rerun		

SIGNED: Mort Fry DATE 6/27/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. PM/TPS-59 TEST SPEC. R&I Demo PAGE NO. 51

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1703		PM258			MF
1705		PM164	Rerun		
1706		PM164	Rerun		
1707		PM258			
1719		PM164	Rerun		MF
1720		PM258			MF
1725		PM164	Rerun		
1729		PM164	Rerun		
1730		PM292	Rerun		
1748		PM164	Rerun		
1750		PM164	Rerun		
1754		PM164	Rerun		
1808		PM164	Rerun		
1812		PM164	Rerun		
1815		PM164	Rerun		
1822		PM164	Rerun		
1825		PM164	Rerun = R		
1826		PM164	R		
1828		PC on input data	R		
1830		PM164	R		
1832		PM164	R		
1846		PM164	R		
1850		PM164	R		
1905		PM164	R		
1915		PM164	R		
2000		Ftr Warm up Ff Beats Dummy on			MF
2005		PM258			
2006		PM000, PM258			

SIGNED: [signature] DATE 6/27/76

HME 7173 REV 2/75 REF 80-00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 52

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2007		PM000			
2008		PM258			
2040		PM000, PM258			
2043		PM000, PM258			
2044		PM000			
2053		PM996, PM000			
2100		Ran SOP 6			
2105		Ran SOP 8 - No Noticable difference	on PPIs. Wx Clear.		
2110		Ran SOP 9 - Checks O.K.			
2115		Ran SOP 10 - Checks O.K.			
2135		PM 258			
2136		PM 000 PM 258			
2137		PM000			
2138		PM 258			
2140		PM000 PM 258			
2141		PM000			
2141		PM 258			
2145		PM 000 PM 258			
2149		PM000 PM258 PM000 PM258			
2342		R.E. IFF INPUT	R		
2344		PM 258			
6-28 0015		PM 258 •	NO ACTION		
0028		PM 258	" "		
0045		PM 258	" "		
0052		PM000			
0106		PM 61 •	" "		

SIGNED: L E Bell DATE 6-28-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-55 TEST SPEC. REL DEMO PAGE NO. 53

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0112		PM 000			LEB
0128		PM 164 •	RERUN		JFP
0131		PM 164	Rerun		JFP
0133		PM 61			JFP
0135		PM 000			JFP
0142		PM 61			JFP
0153		PM 164	Rerun		JFP
0217		PM 164	Rerun		JFP
0219		PM 164	Rerun		JFP
0231		PM 164	Rerun		JFP
0312		PM 164	Rerun		JFP
0317		PM 61			LEB
0413		PM 164	RERUN		LEB
0415		GO TO PPIA & TAOCB			LEB
0440		PM 164	RERUN		LEB
0441		PM 258			LEB
0448		PM 61			JFP
0451		PM 164	Rerun		JFP
0529		PM 61			JFP
0552		PM 164	Rerun		JFP
0603		PM 258			JFP
0604		PM 164	Rerun		JFP
0612		PM 257 PM 258 •			JFP
0626		PM 164	Rerun		JMC
0627		PM 257, PM 258, P262	NO RERUN		JMC
0628		PM 257, PM 258	"		JMC
0730		PM 258, PM 257, PM 258, PM 258			JFP
0732		PM 257, PM 258			JMC

HME 7173 REV 2/75

SIGNED: J L Perry DATE 6/28/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 54

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0734		PM 258	No Action		JAK
0736		PM 257, PM 258	"		JAK
0738		PM 258	"		JAK
0809		STE 408 had 573 errors			JAK
0827		Reversed cover on Power supply distribution box UNIT 1	INSTALLED WRONG! OK		JAK
0803		System OFF			MF
0800		Sperry / Bertl off duty			MF
		M Fox, A Burris on duty			
0815		REMOVED RPS 5, 14 Off			MF
		RRT 14, 4 respectively			
0840		POWERED UP Generators			MF
		#2, #3 CHECKED OIL			
		ADDED where necessary			
0845		Ran Supplemental SOP3			MF
		Ran FL SOP4 FL 361	RPS 4, 14, 22		
0915		FL 442 ΔAz4	Hit side of Unit & Condition cleared		MF
0939		Tactical operation Started	System on the air		MF
0941		PM 164	Rerun		MF
0942		PM 258			MF
0950		PM 257, 258			HBS
1012		PM 164	Rerun		MF
1013		PM 258			MF
1025		RAISED LINE VOLTAGE ON GEN'S	TO 125 V @ SHELTER		HBS
		DECREASED # OF VOLTAGE LOW IND. ON ST 408			
1039		PM 164	Rerun		HBS

SIGNED: Mark Fox DATE 6/28/76

HME 7173 REV 2/75 REF. 80 20 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 55

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1040		PM258, PM61			MF
1041		PM 258			MF
1042		Completed SOP6, SOP7, SOP8			MF
		SOP9, SOP10, SOP11			
		SOP6 @ 0953 Data Recorded on 1538			
		SOP7 @ 0953 CKs O.K.			
		SOP8 @ 0958 C.K.'s O.K			
		SOP9 @ 0005 Used 1538			
		to record targets with SET 1			
		enabled/disabled. (142 targets without			
		114 with)			
		SOP 10 @ 1011 O.K.			
		SOP 11 @ 1030 O.K. EXCEPT			
		Clutter #3 not working			
1050		PM 111 & PM164	Rerun		AB
1052		PM 258			AB
1054		PM 258 & PM164	"		AB
1055		PM " "	NO ACTION		AB
1059		" " & PM161	Rerun		AB
1100		PM 164	"		AB
1101		PM 258			AB
1102		PM 164	Rerun		AB
1103		FREQ 2 DISABLED TEST TO ASCERTAIN IF IT ELIM. PM164			AB
1104		PM 258			AB
1107		PM 164	Rerun		AB
1108		PM164, PM258			MF
1111		PM164			MF
1112		PM164, PM258			MF

SIGNED: Mort Fox DATE 6/28/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 56

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1114		PM 164	Rerun		MF
1116		PM 258, PM 164	Rerun		MF
1117		PM 164	Rerun		MF
1118		PM 164	Rerun		MF
1119		PM 164	Rerun		MF
1120		PM 164	Rerun		MF
1122		PM 164	Rerun		MF
1124		PM 164	Rerun		MF
1125		PM 164			MF
1129		PM 164 did not clear itself	Rerun		MF
1130		PM 258			MF
1131		PM 164	Rerun		MF
1132		PM 164	Rerun		MF
1133		PM 258			MF
1134		PM 164	Rerun		MF
1135		PM 258			MF
1137		PM 164	Rerun		MF
1139		PM 164, PM 258	Rerun		MF
1140		PM 258			MF
1141		PM 164	Rerun		MF
1142		PM 164, PM 258			MF
1144		PM DUMP - CHECKING TO			MF
		VERIFY PM 164			
1146		SYSTEM Reactivated - Operating "T"			MF
1149		PM 258			MF
1155		PM 164	Rerun		MF
1156		PM 164	Rerun		MF
1157		PM 164	Rerun		MF

SIGNED: Mort Fox DATE 4/28/76

HME 7173 REV. 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. CM/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 57

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1159		PM 164, PM 258			MF
1200		Enable Frequency 5 only			
1201		Tactical on with F5 only	Test to see if enabling one freq. gets rid of PM 164		MF
1203		PM 164	Rerun		MF
1205		PM 164	Rerun		MF
1206		PM 164	"		HB
1207		" "	"		HB
1208		PM 164 Parity error on IFF	Rerun		MF
209		Parity error on IFF			
1210		PM 164	Rerun		MF
1211		PM 61			MF
1213		PM 164, PM 61	Rerun		MF
1214		PM 164	"		HB
1215		PM 164	"		HB
1216		"	"		HB
1217		"	"		HB
1217		"	"		HB
1218		"	"		HB
1220		FREQ 5 DISABLED, FREQ 3 ENABLED—TEST ON PM 164			HB
1221		PM 164	Rerun		HB
1222		PM 164	"		HB
1223		"	"		HB
1225		Enabling Useable Freq.	F2, 3, 4, 5, 6, 7		MF
1226		PM 258 & 164	Rerun		HB
1227		PM 164	RERUN		
1228		"	"		

SIGNED: Mark Fox DATE 6/28/76

HME 7173 REV. 2/75 REF. 80.00.08.07

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 58

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1229		PM164	Rerun		MF
1230		Controls Reset.	TAOC A, PPI B		MF
1233		PM 258, PM 995, PM 258 "			MF
1235		PM 164	Rerun		MF
1236		PM995			MF
1237		PM 164	Rerun		MF
1237		PM 995, PM 000			MF
1238		PM 258			
1239		PM 995, PM 258			MF
1240		PM 995, PM 258, PM 10 "	Rerun		MF
1241		Normalizer Left off "A" when Switching over to Postview			
1241		PM 258, PM 61			MF
1242		PM 61			MF
1243		Changed Limits on PM164 From 13,0 to 26,0.	Data Spec. 1212A		MF
1244		PM 258			MF
1252		PM 10	Rerun		MF
1254		PM 258			MF
1326		PM 111, PM258	Rerun		MF
1333		PM 258			MF
1353		PM 61			MF
1358		PM 258, PM 269 "	No Action		
1359		PM 269	"		KB
1418		PM 258			MF
1428		PM 61			MF
1431		PM 258			MF
1435		PM 10	Rerun		KB

SIGNED: Mort Fox DATE 6/28/76

HME 7173 REV. 2 75 REF. 60.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 59

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1502		PM 10	Rerun		HG
1505		PM 164	"		HG
1510		OVER HEAT Light Unit	SHUTDOWN SHELT.		MF
		2, PM 19 Came on	#2 ELECTRONICS		
		A/C #1 OFF.			
1515		A/C #1 ON	CLOSED A/C #1 CKT BK		MF
		SHELTER # 2 POWER ON.	PS3 CKT BKR		
		STE 408 COUNT 6	CLOSED (UNIT 7)		
1521		BACK ON THE AIR			MF
1505		STE 408 Voltage Log			MF
		adjusted to 100 volts.			
		COUNT @ 2 before A/C			
		outage.			
1540		PM 164	Rerun		HG
1541		STE 408 INDICATED Voltage			MF
		Log condition. Count 11			
1600		SYSTEM DOWN FOR WRITING TAPE W PM			HG
		LIMIT FOR PM 164 CHANGED FROM 15.0 TO 26.0			
1629		SYSTEM ON LINE			HG
1647		PM 9, P10	RERUN		MF
1648		PM 258			MF
1657		PM 10	RERUN, OPERATE D2		MF
1702		PM 258			MF
1712		PM 9, PM10	Rerun		MF
1714		PM 258			MF
1734		WEATHER Program, SET 3 was	disabled		MF
		enabled - by accident (?)			

SIGNED: Mark Fox DATE 6/28/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TRS-59 TEST SPEC. Rel. Demo PAGE NO. 60

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1755		LIST 3 DUMP ON PM 10 ERROR			NB
		FLAGS 117, FLAG 10 B SET			
1756		PM 9, PM 10	RERUN		NB
1756		LIST DUMP AGAIN			
1759		PM 258			MF
1801		CHANGED WEATHER BIAS CONSTANT TO $W_L=0, W_H=0$			NAB
1802		PM 258			KB
1804		PM 10	RERUN		MF
1805		PM 258			MF
1815		Changed weather Bias constant	Changed to $W_L=6$		MF
1821		PM 258	$W_H=6$		MF
1840		PM 269			MF
1845		PM 995 + PM 269			MF
1854		PM 258			MF
2000		Burris / Fox Off Shift	Perry / Berty On		MF
2000		STE 408 Count @ 99			MF
2020		PM 10	RERUN		LEB
2025		PM 258	NO ACTION		LEB
2322		RUN 01-06 - NO PROBLEMS			LEB
2400		COMPLETE SOP 8,9,10 - NO PROBLEMS			LEB
		PREP ERROR COUNT / 92			
6-29-76 - GOOD MORNING -					
0247		PM 61			
0317		PM 9, PM 10	Rerun		JHP
0414		PM 61			JHP
0455		PM 10, PM 61	NO		LEB

LE Bert 6-28-76

SIGNED: Mort Fox DATE 6/28/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Acc Demo PAGE NO. 61

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0512		PM 258	NO ACTION		LEO
0526		PM 257, 258	" "		LEO
0529		PM 258	" "		LEO
0748		PM 995	Mistakenly Turned		JAP
			MTI & NRMLZR OFF		
			ON POSTVIEW SCOPE		
0802		System turned off	L. Kordona / R. Joseph		
		395 Errors indicated by			
		STE 408			
0850		Power ON - Gen #3 - STILL CHANGING OIL			
		ON Gen #4			RAJ
0905		Running Supplemental FL			RAJ
		Tx 4, 14, 17, 22 off - 2 Rx 3 off - 1 AZ Rx 38 weak			RAJ
0940		"T" running - PM 3 -	Restart		RAJ
0942		PM 257 - PM 258	No action		RAJ
0943		PM 258	"		RAJ
1100		Collected System Perf Test -	SEE 6		KAJ
1110		Ran SOT #7 - No GO's - No differences			KAJ
1115		Started SOT #8 - [illegible]			KAJ
1118		PM 258, 61			KAJ
1119		PM 61	"		KAJ
1120		PM 258	"		KAJ
1121		Terminated Air Traffic Test -			KAJ
1126		Started SOT #9 - SET 1	off		KAJ
1128		SOT #9 complete - Started SOT #10 MTI off			KAJ
1129		PM 259	NO ACTION		KAJ
1132		SOT #10 complete			KAJ
1140		PM 258 5 ... PM 258 257, 61 ...			KAJ

SIGNED: R. Joseph DATE 6/29/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&I Demo PAGE NO. 62

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1142		PM 258 269	No Action		KH
1145		PM 269	"		KH
1152		PM 258, 269	"		KH
1154		PM 269	"		KH
1201		PM 258, 269	"		KH
1206		PM 269	"		KH
1209		PM 258	"		KH
1213		PM 11	Rerun		KH
1215		PM 10	"		KH
1216		PM 258	No Action		KH
1221		PM 10	Rerun		KH
1222		PM 1	"		KH
1223		PM 258	No Action		KH
1228		Complete Set of PM - IFT Terminal Data			
		on IFT Equipment (Logic # 3 operation			KH
1234		PM258, PM61	No Action		KH
1237		PM 61	"		KH
1243		PM258	"		KH
1249		PM9, PM10	ReRun @ 1249		KH
1250		PM258	No Action		KH
1255		PM10	Rerun @ 1255		KH
1257		PM258	No Action		KH
1300		PM258, PM61	"		KH
1301		PM61	"		KH
1303		PM258	"		KH
1310		PM61	"		KH
1325		PM258	"		KH
1331		PM10	Rerun @ 1331		KH

SIGNED: Leo M. Gordon DATE 6/29/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 63

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1332		PM 258	No Action		
1337		PM 111	Rerun @ 1337		
1339		PM 258	No Action		
1342		PM 258, PM 61	"		
1343		PM 258	"		
1345		PM 10	Rerun @ 1345		
1346		PM 258	No Action		
1348		PM 10	Rerun @ 1348		
1354		PM 258	No Action		
1407		PM 61	"		
1408		100 Power Monitor Errors	"		
1412		PM 269	No Action		
1430		PM 9, PM 10	Rerun @ 1430		
1441		PM 9, 10	No Action		
1442		PM 10	No Action		
1448		PM 9, 10	Rerun @ 1448		
1455		PM 9, 10	Rerun @ 1455		
1510		PM 10	Rerun @ 1510		
1514		PM 61	No Action		
1526		PM 258	"		
1530		PM 269	"		
1545		Change WX Weights W_4 to +6; W_2 to +6			
1547		INFO CONCERNING #1 GEN:			
		investigation of inability of CB to carry load. A resistance			
		of 1 Ω was measured from terminal T8 to NEUT			
		whereas it should be .01 Ω. Concluded a problem			
		in generator itself. Not repairable here. Therefore			
		Generator #1 is down for Good			

SIGNED: Leo M. Gordon DATE 6/29/76

HME 7173 REV. 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 64

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1548		PM 30 (observed lightning)	Rerun @ 1550		
1555		PM 258	No Action		
1557		PM 30 (observed lightning)	Rerun @ 1557		
1558		PM258	No ACTION		
1605		PM3 (observed LIGHTNING)	Rerun @ 1605		
1607		PM30 (" ")	Rerun @ 1609		
1608		PM 258	No ACTION		
1613		PM30 (observed LIGHTNING)	Rerun @ 1614		
1625		PM 10	Rerun @ 1625		
1629		PM 10	"		
1632		PM 995			
1634		PM 249 — PM 995, PM 249			
1635		PM 995, PM 249 — PM 995, PM 249			
1636		3 more PM 995, PM 249's — Rerun			
1637		PM 995			
1657		PM 2 3 FM1 PM000	Rerun @ 1658		
1659		PM 995	No action		
1704		PM000 PM 2 3 [illegible]	Operator Aborted		
		Rerun 4/6 tapes initialized MIX program			
1711		Run DS Target Jr 500			
		Target pairs 344			
1747		200 Track Pairs Built			
1802		PM 6 1	No action		
1925		PM148, PM 155	Rerun @ 1925		
1929		PM258	No Action		
1934		PM995; Ran DS printout.			
1952		PM117	Rerun @ 1952		
2000		PM117	Rerun @ 2000		

SIGNED: Leo M Gordon DATE 6/29/1976

HME 7173 REV. 2-75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 65

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2001		PM 257, PM 258, PM 258			HB
2001		H Bennis M Box ON DUTY			MF
2008		PM 257, PM 258			MF
2009		PM 258			MF
2012		PM 257, PM 258			MF
2012		Completed SOP 6	D2, D4, D5, D6		
			PERFORMANCE TEST		MF
2016		PM 258			MF
2024		PM 257, PM 258			MF
2025		PM 258	No Act.		JCK
2037		PM 257 & 258 + 258 again	"		JCK
2059		PM 257, PM 258			MF
2101		PM 258			MF
2104		PM 257, PM 258			MF
2106		PM 258			MF
→ 2137		Lost Power - System Down			JK
2146		DIESEL #3 OVER HEATED	Turned on #2		MF
2150		#2/#4 Paralleled			MF
2159		Tactical operation resumed	Loaded "T"		MF
2200		PM 258			
2205		At time of Diesel drop out STE 408 @ 262 Counts			MF
2210		Completed SOP 6, 7, 8, 9, 10	Tested Good.		MF
2134		operating Weather Program	Test Good		MF
2300		PM 258, PM 292	Turned IFF Gain up.		MF
2301		PM 258			MF
2307		Printing Error on IFF input data			MF

DATE 6/29

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 66

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2328		PM 258			MF
2335		AM 258, PM 61			MF
2336		PM 258			MF
0030		PM 258, PM 292	Rerun		MF
0031		PM 258			
0040		PM 258, PM 292	Rerun		MF
0041		PM 258			MF
0059		PM 292	Rerun		MF
0100		Changed PPI Controls	PPI B / TAOC A		MF
0102		PM 292	Rerun		MF
0113		Turned down IFF Gain			MF
0131		Enabled TAOC	Stopped operation		MF
0134		Resumed operation with TAOC			MF
0135		PM 86, 94, 95 (Not Properly Interrogated)	Adjusted pulse [redacted] generator		MF
0139		[redacted]	Rerun		MF
0200		PM 258			MF
0438		PM 258, PM 61			MF
0434		PM 258			MF
0437		PM 258, PM 61			MF
0442		PM 258			MF
0539		STE 408 Count 200			MF
0606		PM 85, PM 86	Rerun		MF
0610		PM 86, PM 87, PM 97	Rerun		MF
0615		PM 61			MF
0619		Pulse generator drifted.	Caused PM 85, 86		MF
		Hooked up to TAOC	PM 87, PM 97 to		
		Junction Box	occur		

SIGNED: Mark Fox DATE 6/29/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. an/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 67

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0700		PM 258			KB
0711		PM 995, PM 258			MF
0730		PM 258, PM 292	Rerun		MF
0731		PM 258			MF
0755		OPERATOR 01 + 06			MF
0756		STE 408 COUNT ~~248~~ 252			MF
0800		SYSTEM OFF THE AIR & TRAC ANTEN. DISCON.			MF
0800		Burris/Fox off Gordon/Joseph on			MF
0845		Generator 2 & 4 on-line			KMJ
0908		Supplemental FL Complete - Tx 4, 14, 17, 22 out			
		Tx 7 weak - Rx 3 out - 38 weak - Hourglass OK			KMJ
0916		Completed FL - FLSTOP			KMJ
0925		T running - would not read paper Tape - tried to			
		use spare generated new Spare	(PM 3)		KMJ
0925		PM 257, PM258	No Action		KMJ
0926		PM 258	"		KMJ
0927		PM 257 PM258	"		KMJ
0937		Many Power interrupts Fa. OK - adjusted line voltage			
		downward - Reset counter to 000 - all quiet.			KMJ
0938		PM 258	No Action		KMJ
0942		PM 257, 258	"		KMJ
0945		PM 258	"		KMJ
0952		Completed SOP #6 - ± signal low on f6			KMJ
0955		Completed SOP #7 - all normal			KMJ
1004		IFF Parity Errors			KMJ
1005		PM 258	NO ACTION		KMJ
1045		Completed SOP #8 - all normal			KMJ
1123		Completed SOP #9 - all normal			KMJ

SIGNED: Mort Fox DATE 6/30/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Ref Dwg PAGE NO. 68

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1024		PM 292, 258	Rerun @ 1024		KHJ
1025		PM 258	No Action		KHJ
1032		Completed SOP #10	All normal		KHJ
1033		PM 258 PM 292	Rerun @ 1033		KHJ
1035		PM 258, 14262	No Action		KHJ
1036		PM 258	"		KHJ
1037		PM 258, PM 292	Rerun @ 1037		KHJ
1038		PM 258	No Action		KHJ
1103		SOP #11 Complete - IFF Defruiter works!!			
		CC Gate #3 won't work.			KHJ
1136		PM 258 PM 61	No Action		KHJ
1138		PM 258	"		KHJ
1142		PM 258 PM 292	Rerun @ 1142		KHJ
1143		PM 258	No Action		KHJ
1150		PM 292	Rerun @ 1150		KHJ
1152		PM 61	No Action		KHJ
1155		PM 292	Rerun @ 1155		KHJ
1219		PM 61	No Action		KHJ
1256		PM 292	Rerun @ 1256		KHJ
1301		PM 258	No Action		KHJ
1308		PM 257, PM 257	"		KHJ
1309		~~ACU, SSPDC out of SYNC~~	~~AUTO RERUN~~ 29		
1310		PM 257, PM 258, PM 292	Rerun @ 1310		KHJ
1313		PM 292	Rerun @ 1313		KHJ
1315		PM 258	No Action		
1319		ACU, SSPDC out of SYNC	Auto Rerun @ 1319		KHJ
1320		PM 258	No Action		
1326		PM 258, PM 61	"		KHJ

SIGNED: Leo M Gordon DATE 6/30/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 69

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1328		PM 258	No Action		RHJ
1331		PM258, PM292	Rerun @1332		RH
1333		PM 258	No Action		RH
1351		PM258 PM292	Rerun @ 1351		RH
1352		PM 258	No Action		RH
1356		PM 258, PM 292	Rerun @ 1356		RH
1358		PM 258	No Action		RH
1401		100 Power Monitor Faults	"		RH
1403		PM 258, 261	"		RH
1404		PM 258	"		RH
1408		PM 258, 292	Rerun @ 1408		RH
1409		Turned down IFF gain			RH
1410		PM 258	No Action		RH
1419		PM258, PM61	"		RH
1421		PM258	"		RH
1654		#3 Generator back operational: Leaking radiator problem solved by swapping radiator assemblies with #1 gen.	Oil has been changed:		RH
1717		PM 995, 258	No Action		RH
1729		PM 995, 258	"		RH
1735		PM 11	Rerun		RH
1736		PM 11	Rerun		RH
1739		PM 258 — PM 11	Rerun		RH
1740		Set up clutter sector to Rework out weather at 105 miles - Took 05 listings before & after. With clutter sector - Tgts in - 541 Tgts proc - 138 With clutter sector out - Tgts in - 549 Tgts proc - 320			RH

SIGNED: Leo M. Goodwin DATE 6/30/76

HME 7173 REV. 2-75 REF. 80.00.68.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 70

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1743		PM 11	Rerun @ 1743		
1744		PM 258	No Action		
1746		PM 11	Rerun @ 1746		
1747		PM 11	" 1747		
1747		Removed clutter censer			
1748		PM 258	No Action		
1759		PM 995, 258	"		
1813		PM 61	"		
1814		PM 258	"		
1847		Gen #5 was started and protective package (electronics) was swapped with #1 gen. However, suspect a bad phase in this one also. Load bank says one phase will not carry load. Try paralleling to confirm.			
1913		200 Power Monitor Faults			
1923		PM258, PM61	No Action		
1924		PM 258	"		
1926		PM 61	"		
1928		PM258, PM61	"		
1929		PM258	"		
1938		PM258, PM61	"		
1939		PM61	"		
1941		PM258	"		
1958		PM 61	"		
2000		FOX Barris on / Joseph Gordon off			
2017		Completed D1 and DC	RRT 38 Leaks Low		
2029		PM258			
2031		CHANGE WEATHER BIAS COAST TO CON = WL = +6			

SIGNED: _____ DATE 1/30/76

HME 7173 REV. 2/75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 71

SER. NO. KN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2032		PM 258			MF
2100		Completed SOP 6,7,8,9,10	Performance Tests		MF
		Checked SET 1 operation	O.K.		
		by noting diffrent radar			
		target count with and with-			
		out Set 1 (Used DS)			
2115		PM 258, PM 269			MF
2116		PM 269			MF
2120		PM 258, PM 269			MF
2124		PM 269			MF
2135		PM 258, PM 61			MF
2136		PM 61, STARTED C/O OF SHELTER 3 COMM EQN.O.			MF
2137		PM 258			MF
2157		PM 61			MF
2139		PM 258			MF
2240		PM 258, PM 61			MF
2241		PM 61			MF
2244		PM 258			MF
2253		PM 61			MF
2256		PM 258			MF
2301		PM 61			MF
2306		PM 258			MF
2307		PM 61			MF
2310		[illegible]			MF
2324		PM 111 (Normalizer inoperative)	Rerun		MF
2330		[illegible]			MF
0006		PM 61			MF
0007		PM 258			MF

SIGNED: Mort Fox DATE 6/30/76

HME 7173 REV. 2-75 REF. 80.00 08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/ARS-3B TEST SPEC. Rel. Demo. PAGE NO. 72

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7087 6626	INIT.
0037		PM 61			MF
0040		PM 258			MF
0050		PM 22			MF
0059		PM 61			MF
0100		PM 258			MF
0101		PM 111			MF
0103		PM 258			MF
0106		PM 61			MF
0110		PM 258			MF
0147		Control Setting Change	TACC A→B, PPI A→		MF
0152		PM 61			MB
0156		PM 258			MB
0156		COMPLETED C/O OF SHELTER COMM - ALL OK			
		(AS PER TACC INT. PROCEDURES) EXCEPT PPI B			
		VOX NEEDS ADJUSTMENT AND PARA 3.1.6			
		WAS NOT ACCOMPLISHED			MB
0251		PM 61			MF
0303		PM 61			MF
0305		PM 258			MF
0307		PM 61			MF
0311		PM 258			MF
0330		PM 61, PM 258			MF
0331		PM 61			MF
0337		PM 258			MF
0350		PM 61			MF
0357		PM 258			MF
0556		PM 61			MF
0614		PM 258			MF

SIGNED: [signature] DATE 7/1/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/FPS 59 TEST SPEC. Rel Demo PAGE NO. 23

SER. NO. XV-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0616		PM 61			[illegible]
0635		PM 258, PM 61			MF
0636		PM 61			MF
0642		PM 258			MF
0645		PM 61			MF
0653		PM 258			MF
0800		Took 01 06 data 40, 41 CRTs			MF
		Lockheed C@ 7. STE 402 COUNT			
		@ 456			
0800		MTOX/HT SUPPLIES OFF			
		Betts, Leahy on			
0831		System Operating, Computer SOP 2,3,4		LSB	
0935		PM 258 Running	on GEN 245		GEF
0941		Completed SOP 6			GEF
0943		TADC B as per SOP 7	PIB Sweep Start Head Gl		GEF
0948		Completed SOP 8 - Checks Good			GEF
0949		PE IFF Input	R		GEF
0950		PM 258	No Action		GEF
0955		Completed SOP 9 - Checks Good			GEF
1000		Completed SOP 10 - Checks Good			GEF
1017		PE IFF Input Buffer			GEF
1019		PM 258			GEF
1022		PM 258, PM 292	R		GEF
1023		PM 258			GEF
1038		Completed SOP 11 - Checks Ok	To Normal Configuration		GEF
1039		Complete Mission for 1 System + 1	Master Test III		GEF
1047		System Down			GEF
1048		PM 258			GEF

SIGNED: L. E. Betts DATE 7-1-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 74

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1116		PM 292	R		
1113		PM 258			
1116		PM 292	R		
1117		PM 292			
1140		PM 269			
1220		PM 258			
1228		PM 292 & 258	R		
1312		PM 269			
1448		PM 61			
1502		RE IFF INPUT	R		
1510		PM 110	R		
1529		PM 292	R		
1533		PM 61			
1537		OBSERVED GENERATORS - #5 PULLING ABOUT 15% LESS LOAD. DIMINUTIVE ON #5 WAS ON @ 1430, SYNC	ALL THREE LIGHTS OK		LEB
1540		IFF PARITY	NA		
1606		PM 61	NA		
1611		RE IFF INPUT DATA	NA		
1645		PM 292	R		
1652		COMPUTER DOWN. (1) CLASS III fault/CLASS I fault CP-IOC INTERRUPT CODE Resume. (2) WADE R. tried to Restart Program from M.C. - No luck. (3) TRied to boot load tape from M.C. - No luck (4) Pwred down UYK-7 / Pwred up UYK-7. (5) Tried to boot load tape from M.C. again - No luck. (6) Tried to boot load tape from Computer console - No luck. (7) Repeated step (4) - MC down (8) Repeated (cont)			

SIGNED: L.S. Beck DATE 7/1/76

HME 7173 REV. 2/75 REF. 80.00.08

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO. PAGE NO. 75

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		Step 4 - MC back up. (9) Repeated step 3 several			
		times before getting tape to load. (10) Initialized			
0 1715		"T" @ 1715			
1716		PM 258			
1735		PM 61	R		
1737		PARITY ERROR ON IFF DATA INPUT			
1750		PM 292	R		
1818		PM 258			
1820		D1 & D6 data taken			
1822		PM 292	R		
1825		PM 258			
1829		PM 61			
1831		1538 MAINT - LOUD NOISE, DRONE TYPE			
		NOISE, NO VIDEO, NO FAULTS ANNUNCIATED			
* 1832		SHUT OFF SYSTEM. SHUT OFF 1538			
		& RESTARTED - NOISE WENT AWAY.			
		REINSTALLED T PROGRAM, WOULDN'T			
		LOAD, TRIED MASTER CLEAR ON ~~IFF~~			
		TAPE TRANS UNIT - SEVERAL TIMES,			
		~~RE~~ RELOCATED TAPE ETC., SHUT			
		DOWN COMPUTER - TRIED AGAIN -			
		FINAL ALLERTED LOAD POINT. THAN			
		HAD PROBLEMS WITH 1538 ACCEPTING			
		TAPE -			
* 1916		T-UP & OPERATING			
1910		PM 258	N.A.		

SIGNED: L. E. B. DATE 7-1-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Rel Demo PAGE NO. 26

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1911		COMPUTER DOWN -			LEB
		SAMRAS 1652 ENTRY			
		REBOOTED T-PROGRAM			
		ACCEPTED			
1917		T ON AIR			LEB
1918		PM 258	N.A.		
1925		PM 292	R		LEB
1928		PM 292	R		
1935		PM 258			LEB
1945		PM 269			
2005		RSRS OFF - Ron Joseph ON			LEB
2015		PM 258			
2020		SOP 8 - OK			
2025		SOP 9 - OK			
2029		SOP 10 - OK			
2032		SOP 6 - completed			
2038		PM 292	R		
2042		PM 258			
2053		PM 61			
2123		PM 258	No Action		RAM
2128		PM 292	Rerun		
2130		PM 292	"		
2131		PM 258	No Action		RAJ
2134		PM 292	R		
2142		2nd SHIFT "DAILY LOG SHEET #2"	data taken		
2145		PM 258			
2147		PM 292	Rerun		RAJ
2148		PM 258			

SIGNED: Ronald P Joseph DATE 7/1/76

HME 7173 REV. 2/75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 77

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2201		PM61			
2207		PM258			
2211		PM 256, 292	R		
2212		PM 258			
2213		PM 139	Rerun		
2214		PM258			
2240		PM61			
2242		PM258			
2249		PM292	R		
2258		PM258			
2301		PM292	R		
2302		PM258			
2342		Parity Error on IFF			
2343		PM258			
0027		PM292	R		
0040		PM 258	No Action		
0125		PM292	R		
0129		PM61			
0131		PM258			
0134		PM 292	R		
0138		PM292	R		
0151		PM 258			
0201		PM 292	R		
0203		PM292	R		
0208		PM61			
0217		PM258			
0218		PM292	R		
0237		PM61			

SIGNED: Ronald A Joseph DATE 7/2/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 78

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

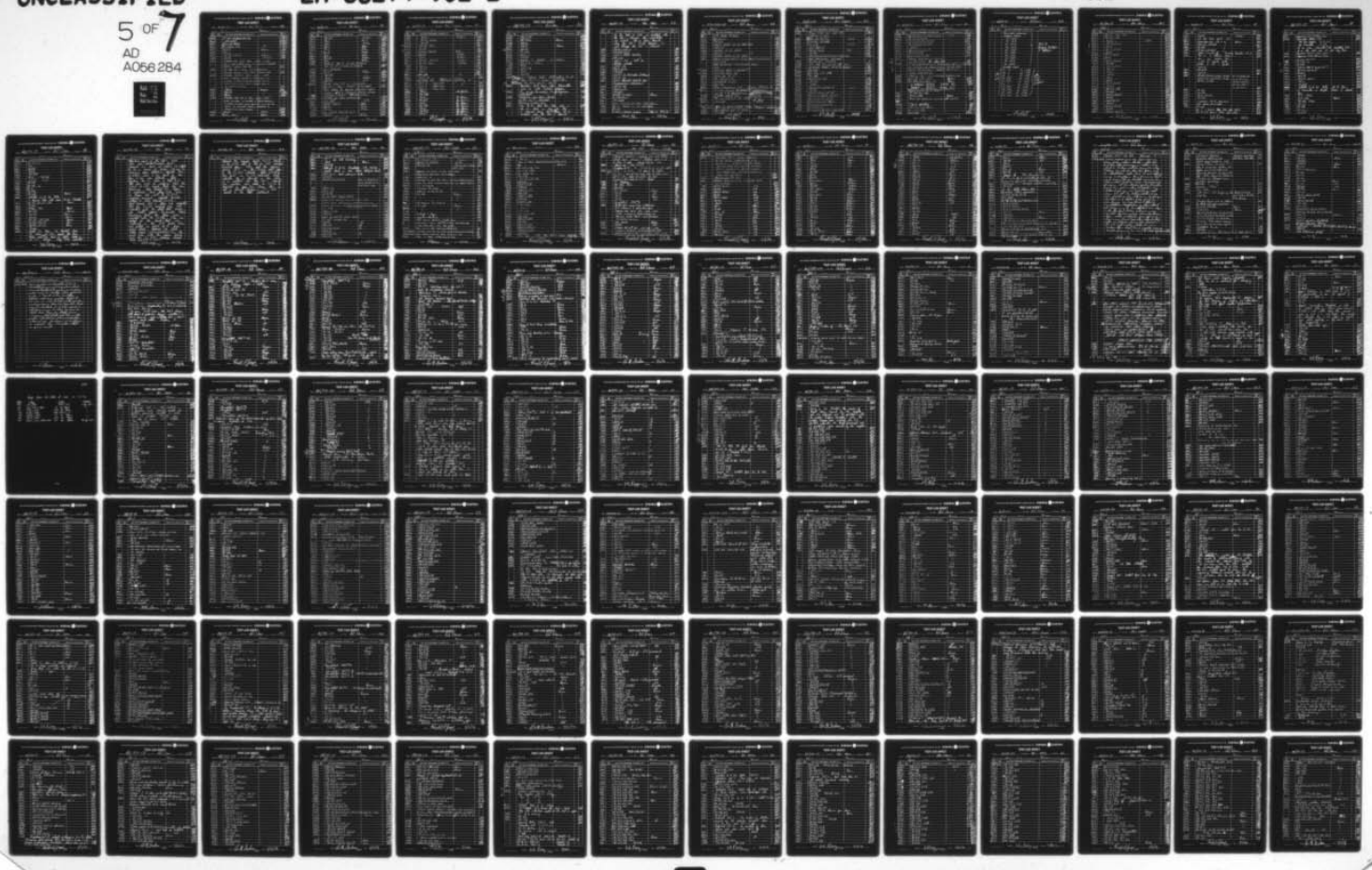
DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6628	INIT.
0444		PM 258	No Action		RM
0453		PM 61			RM
0508		PM 9, 10	R		RM
0509		PM 258			RM
0609		PM 9 PM 10	R		RM
0612		PM 111	R		RM
0616		PM 258			RM
0640		PM 269			RM
0650		PM 258			RM
0749		PM 292	R		RM
0754		PM 292	R		RM
0800		Powered down - 551 Power Monitor Faults			RM
		R. JOSEPH/A CHESNEY OFF			LEB
		L. BERT/J KEHN ON			
0850		START TO BRING GEN'S UP - PICKED UP & FL 47 DURING FL TAPE - TALKED WITH J. PERRY - APPEARS THAT TEST SIGNAL GENERATOR IS LOW. LIST 3 DATA FROM COMMAND 5 WAS DUMPED OUT FOR PERRY TO REVIEW @ 2ND SHIFT. TEST WAS RESUMED			LEB
1000		STARTING TO LOAD T, COMPUTER HOUR FAULT IN MIDDLE OF LOADING TAPE (CP-Operand Memory Resume - bank 5)			LEB
			WITHOUT CONCURRENCE OF GOVT. REP - UNINTENTIONAL.		LE

SIGNED: L. E. Bert DATE 7-2-76

HME 7173 REV. 2/75 REF. 80.00.08.07

AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

5 OF 7
AD
A056284



HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. PRMO PAGE NO. 79

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1004		T-UP & OPERATING			LEB
1005		PM 258			LEB
1015		RUN DI #06			LEB
1023		PM 258 & 252	R		LEB
1025		PM 258	NO ACTION		JAK
1033		PM 62	"		JAK
1034		PM 258 & PM 292	RERUN		JAK
1035		PM 258	NO ACTION		JAK
1037		OPERATED PER SOP 8 FROM 1020 - 1037			
		HAD INCREASE IN FALSE ALARMS ON PREVIEW SCOPE (A)			
		Relative to postive scope (B)			JAK
1040		AS PER SOP 7 SINCE T-UP & OPERATING			
		have been operating with PPIA & TRACK ON RAM			JAK
1052		OPERATED PER SOP 9 FROM 1045 - 1050			
		NOTED INCREASED NUMBER OF FALSE ALARMS AND			
		INCREASED NUMBER OF MULTIPLE DECLARED TARGET			
		MARKS DURING TIME SET 1 DISABLED, RETURNED			
		TO PRE-TEST CONDITIONS			JAK
1123		PM 61	NO ACTION		JAK
1129		PM 258	"		JAK
1130		PM 269	"		JAK
1137		OPERATED PER SOP 10 from 1130 - 1155			
		NOTED INCREASE IN CLUTTER & FALSE ALARMS,			
		CLUTTER INCREASE MORE APPARENT IN 0-35 mi			
		RANGE OF SOUTHWEST SECTOR, RETURNED TO			
		PRETEST-CONDITIONS CLEARED			JAK
1158		PM 258	NO ACTION		JAK
1217		PM 269, PM 11	RERUN		JAK

SIGNED: L. E. Best DATE 7-2-76

HME 7173 REV. 2/75 REF. 80.00.08.00

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. F0

SER. NO. KN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6826	INIT.
1218		PM 258	No Action		JAK
1222		PM 11	Re Run		JAK
1225		PM 61	No Action		JAK
1226		PM 11	Re Run		JAK
1228		PM 11	Re Run		JAK
1229		PM 258	No Action		JAK
1229		PM 11	Re Run		JAK
1230		PM 258	No Action		JAK
1230		PM 11	Re Run		JAK
1232		Performed SOP 11 - CONTROL EXCESSING			
		STEP 15 Vol. 3 control non functional			JAK
1232		PM 111 & PM 258			
1233		PM 111	Re Run		JAK
1235		PM 258	—		JAK
1235		PM 61	No Action		JAK
1240		PM 258	No Action		JAK
1245		TURNED SYSTEM OFF TO CHECK MOTOR			
		GEAR BOX ON ARRAY - APPEARS LOOSE - GOUT			JAK
		JUST WENT TO LUNCH GEAR BOX WAS			
		LOOSE, 1/6 of 6 SCREWS LOOSE, SOME			
1529		FINGER TIGHT - SEE SUMMARY			
1529		SYSTEM UP AND OPERATING			LEB
1531		PM 258	NA		LEB
1544		PM 258, PM 292	Return		JAK
1546		PM 292	Return		JAK
1548		PM 292	Re Run		JAK
1550		OPER W/PPER - THOCA PER SOP 7			JAK
1552		PM 292	Re Run		JAK

SIGNED: L E Bell DATE 12-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 81

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1553		PM 61	No Action		JAK.
1554		PM 258, PM 262	"		JAK
1555		PM 258	"		JAK
1659		PM 258, PM 61	"		JAK
1600		PM 258	"		JAK
1656		PM 258, PM 292	Return		JAK
1657		PM 258	No Action		JAK
1706		PM 61	No Action		JAK
1726		PM 292, PM 258	No Action		JAK
1800		PM 258, PM 61	No Action		JAK
1800		PM 61	"		JAK
1801		PM 258	"		JAK
1917		PM 61	"		JAK
1919		PM 258	"		JAK
2010		SOP 6			
2000		Los Baltz A. DA Joseph	JF Perry on		
2015		SOP 8 - Checks Good.			
2020		SOP 9 - Checks Good.			
2025		SOP 10 - Check Good			
2033		PM 61	No Action		
2037		PM 258	"		
2050		PM 61	No Action		
2055		PM 258	No Action		
2057		PM 61	No Action		
2102		PM 258	No Action		
2220		PM 61	No Action		
2230		PM 258	No Action		
2232		PM 61	No Action		

SIGNED: AF Joseph DATE 7/2/76

HME 7173 REV. 2/75 REF 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 82

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6628	INIT.
2234		PM 258			
2252		PM 292	Reran		
2312		PM 61			
2313		PM 111	Reran		
2342		PM 61			
0147		PM 258 •			
0327		PM 61 •			
0328		PM 258			
0610		OBTAINED PI PRINTOUT, ALL	NORMAL		
0715		PM 258, PM 61			
0717		PM 61			
0718		PM 258			
0742		PM 61			
0744		PM 258			
0800	FOX/ [illegible] ON SHIFT	FL Program Rad - still getting FL 47.			
		took UST 3 & 5 dump - forward down -			
	PERRY/ DOSEPH	OFF 98 Power Monitor Faults			
0945		Generators shut down when transmitters were on with Tactical program			
0856		FL dump Isemental, FL program started			
0955		Tactical Operation back on the air - loadest.			
1002		Array on the air			
1002		The FL 47 that has been seen in the FL tests is due to the E channel being low by 5db when it is switched into the SET 1 channel.			

SIGNED: J S Perry DATE 7/3/76

HME 7173 REV. 2/75 REF. 80.00.08.07

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 83

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		If the DAZ on DEL is	switched into		
		the SET 1 channel the	amplitudes		
		are correct. It is also	normal		
		when the SET 1 Final	Receiver is		
		sent through the SET 1	channel.		
1008		PM257, 258, 61			
1009		PM258, 61, 61			
1015		SOP 6 - DATA TAKEN			
1018		PM 258			
1020		SOP 7 - OK ART #0			
		loops weak			
1025		SOP 8 - OK			
1032		PM 257, 258			
1033		PM 258			
1034		SOP 9 - No Noticeable difference			
1039		SOP 10 - OK			
1100		SOP 11 - SENSOR GATE #3 NOT			
		FUNCTIONING PROPERLY			
1105		SOP 12 - OK			
1120		PM257, 258			
1121		PM 258			MF
1128		PM28, PM292	Reran		MF
1130		PM 258, PM 61			MF
1131		PM 258			MF
1200		TIME, ENVIRON, A/C, P.G. Data	Taken		MF
1222		PARITY ERROR ON IFF input	data		MF
1223		PM 258			MF
1230		Switched Displays Controls	TRDC A OPI B		MF

SIGNED: Mort Fox DATE 7/3/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 84

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1500		D-6 Data Taken			
1507		PM 258, 61			
1509		PM 258			
1815		PARITY ERRORS ON IFF INPUT DATA			
1816		PM 258			
1928		TAKING D1, D6 DATA			
1930		PM 164 •	K		
1931		REPEAT TAKING D1, D6 DATA			
1931		PM 207, 208, 249, 257, 258, 261, 207, 208, 249, •			
		257, 258			
		PM MESSAGES CONTINUED UNTIL			
		1940			
1940		SYSTEM DOWN To Reboot "T"			
1944		SYSTEM BACK ON			
1944		TOOK D6 AT F7			
1945		PM 209, 210, 258 •			
1946		DISABLED F2, F3			
1947		PM 258			
2000		FOX / CHESNEY OFF BURRIS / BERTZ ON			MF
2000		SYSTEM DOWN ~~To Load T~~ - PROBLEMS			EB
		WITH T & RELOADING	DISABLED FLAGS		
2035		SYSTEM BACK ON	F2 & F3		
2035		PM 207 208 209 210 258	& EB		EB
2037		PM 258			
2000	CONT	RAN D1 & FINISHED, THAN STOPPED TRANSMITTI			
2047		ACU & SPCA NOT IN SYNC			EB
2047		PM 258			EB

SIGNED: Mort Fox DATE 12/3/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&L DEMO PAGE NO. 85

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2106		TURN TARC ON - LET PM			LEB
		CHECK IT OUT -			
2108		PM258, 86, 94, 95	N.A		LEB
2125		PM258, 85 & 86			LEB
2126		PM 258	N.A		LEB
2129		HIT RERUN			LEB
2130		PM258, PM262	N.A.		JAK
2131		PM 268	"		JAK
2202		NOTICE0 LINE CURRENT MONITOR			LEB
		HAS PARTICULAR SPIKES			
2206		ENABLED F2 & F3			
2208		PM 208, 209, 210 & 258, 207			LEB
2209		DISABLE FREQ'S F2 & F3 AGAIN			LEB
2210		PM 258			LEB
2225		PM 213, 214, 258			LEB
2228		PM 258			
2230		PM 213, 214, 258			JAK
2234		PM 258			JAK
2239		Rerun			JAK
2240		PM213, PM214, PM258	N.A.		JAK
2246		PM258	"		JAK
2313		PM213, PM214, PM258	"		JAK
2328		PM213, 214, PM258, PM270	"		JAK
2343		PM 313, 314, 250, 258, 270	"		JAK
2354		PM 213, 214, 215, 216, 258 270	"		JAK
2356		PM 213, 214, 215, 216, 256	"		JAK
2352		PM 213 214, 258	"		JAK
0006		PM 213, 214, 250, 258, 215, 214, 215, 216 250, 258	"		JAK

SIGNED: L E Burt DATE 7-4-76

HME 7173 REV. 2/75 REF. 80.00.08.02

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 86

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0008		PM 213, 214, 215, 216, 258, 213, 214, 258	N. A.		JAK
0010		PM 215, 214, 250, 258	"		JAK
0011		PM 213, 214, 215, 216, 250, 258	"		JAK
0012		PM 213, 214, 215, 216, 258	"		JAK
0016		. Re Run			JAK
0017		PM 213, 214, 215, 216, 258	"		JAK
0022		PM 213, 214, 258	"		JAK
0024		PM 213, 214, 215, 216, 258	"		JAK
0029		Notified Roger Laine of DCAS of			
		EXCITER FAILURE See page 86A			JAK
0137		T Up & OPERATING - CHANGED X8 (UNIT 4)			LEB
		MULTIPLIER & AMPLIFIER - THESE ARE			
		STILL TEMPORARY, FRED'S F2 - F7			
		ARE OPERATING			
0142		TRYING F1 - F1 ENABLED & OPERATING			
0147		PM 258, 257, 262	Rerun		JAP
0150		PM 258, 257, 262, 111	Rerun		JAP
		x8 Multiplier 4N1A1A1 A331961 SN1			JAP
		Amplifier 4N1A2A1 40265 SN 2			
		AMPLIFIER HAD ~~Error~~ FAILED - MULTIPLIER WAS CHANGED DUE TO LOW f1 OUTPUT			
0151		PM 258, 257, 262			JAP
0157		PM 257, 258	Rerun		JAP
0200		PAUSE FOR RESEALING UNIT 4 with SN 27			JAP
~~0205~~					
0212		"T up & operating			JAP
0217		PM 257, 258 & 262			JAP
0218		PM 257, 258			LEB
0234		PM 258			LEB

SIGNED: R. E. Ostt DATE 1-4-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 86A

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		Power Output Measurements			
		Multiplier outputs			
		71 – 34.07			
		72 - 33.78			
		73 - 32.09	Prior to		
		74 - 30.57	changing Multiplier		
		75 - 29.05	& Amplifiers		
		76 - 29.86			
		77 - 29.12			
		78 - 28.82			
		79 - 27.92			
		710 - 29.57			
		Amplifier outputs			
		71 0 71 -21.88			
		72 0 72 -21.86			
	flat	73 0 73 -21.85	after		
	grp	74 -21.85 74 -21.90	new		
		75 -67.50 75 -21.83	amp		
		76 0 76 -21.61	installed		
		77 -19.67 77 -21.35			
		78 -19.62 78 -21.07			
		79 -19.59 79 -20.73			
		710 -19.68 710 -20.45			

SIGNED: L E Bell DATE 7-4-76

HME 7173 REV. 2 75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rec Dwg PAGE NO. 87

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0236		PM 257, 258, 262			JSP
0237		PM 257, 258			JSP
0300		PM 258	No Action		JAK
0301		PM 257, PM 258	"		JAK
0302		PM 258	"		JAK
0308		PM 257, PM 258	"		JAK
0311		PM 258	"		JAK
0328		PM 257, PM 258	"		JAK
0350		PM 258	"		JAK
0336		PM 257, PM 258	"		JAK
0337		PM 258	"		JSP
0342-		PM 257, PM 258	"		JAK
0344		PM 258	"		JAK
0438		PM 61	"		JAK
0452		PM 258	"		JAK
0544		PM 61	"		JAK
0547		PM 258	"		JAK
0550		PM 257, PM 258	"		JAK
0550		PM 258	"		JAK
0607		PM 257, 258	"		JSP
0609		PM 258	"		JSP
0612		PM 257, PM 258	"		JAK
0623		PM 258	"		JAK
0650		PM 257, PM 258	"		JAK
0651		PM 258	"		JAK
0702		PM 257, PM 258	"		JAK
0705		PM 258	"		JAK
0722		PM 257, PM 258	"		JAK

SIGNED: J L Perry DATE 7-1-76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Rel. Demo PAGE NO. 88

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0754		PM 258	No Action		JAK
0757		STE 408 Error Count 183			JEP
0924		System Operating, PM 5	Rerun		
0926		PM 257, PM 258			
0926		PM 258			
0929		PM 257, PM 258			
0800		System Turned off Running Generators 2 & 3			JEP
0935		Row 41 Σ Receiver shows low, we believe this is due to monitor path problem & not a failed Receiver			JEP
0937		PM 258			
0942		SOP 6			
0945		PM 995, PM 258, PM 995, PM 258	MTI OFF, NORMALIZER		
		PM 995, PM 258, PM 995, PM 258	OFF ON PPI 'B' 23		
		PM 995, PM 258	PASTVIEW, SELECTED		
			PPI 'A' 23 TPOC 'A'		
			23 per SOP 7		
0946		PM 23			
0947		PM 258			
0949		PM 61, PM 258			
0950		PM 258			
0953		Completed SOP 8, Checks Good			
0955		RCU SSPXC NOT IN SYNC			
0956		PM 258			JEP
		Row 3 Σ Receiver below spec value			JAP
		Row 38 DAZ Receiver below spec value			JAP

SIGNED: J E Perry DATE 7/4/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 89

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0959		Completed SOP 9, Checks Good			
1000		Transmitter Status (#2)			
		Bad Power supplies 4, 14, 22			
		Bad Transmitters 17, 25			
		On one run, Transmitter 29 was completely dead & on the next run it was very low			
1004		Completed SOP 10, Checks Good.			
1020		Completed SOP 11, Returned Controls			
		as per SOP 12			
1136		PM 258, 61			
1137		PM 258			
1236		Selected TPOC 'A' as per SOP 7			
1240		PM 258, PM 269			
1241		PM 269			
1300		PM 258			
1303		PM 258, PM 61			
1304		PM 61			
1306		PM 258			
~~1400~~		Collected D1 & D6 Data	At #6 Row		
1402		29 Transmitter is alright.	Earlier it showed		
		low			
1430		PM 3, PM 61			
1435		PM 9, P10	Rerun		
1437		PM 258, PM 61			
1438		PM 61			
1439		PM 258			
1444		PM 61			
1445		PM 258			

SIGNED: J F Perry DATE _____

REF. 80.00.08.07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 90

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1455		PM 258, 61			JLP
1456		PM 61			JLP
1458		PM 258			JLP
1510		PM 61			JLP
1512		PM 258			JLP
1515		PM 61 – PM 258			JLP
1531		PM 258 PM 61			JLP
1534		PM 258			JLP
1539		PM 258, 61			JLP
1540		PM 61			JLP
1541		PM 258			JLP
1557		PM 164	Rerun		JLP
1608		Collected D1 & D6 Data			JLP
		& Receiver Data well above	PM 258 Threshold		
1611		PM 147, 143, 147, 143	Rerun		JLP
1612		PM 995			JLP
1613		PM 000, 143	Rerun		JLP
1614		PM 143	Rerun		JLP
1615		PM 143	Rerun		JLP
1615		PM 143	Rerun		JLP
1617		PM 143, 147, 143	Rerun		JLP
1619		PM 995, PM 147	Rerun		JLP
1620		PM 995, PM 143	Rerun		JLP
1622		Pause			JLP
1624		Loaded FL Tape. D2 Printout from			
		PM shows SR-LFM signal too low			
		Broke seal #34 on Unit 6 after looking			
		at FL Flags. Flag 1256 indicated			

SIGNED: J L Perry DATE 7/4/76

HME 7173 REV. 2/75 REF. 80.00.08.07 P-92

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO. PAGE NO. 91

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		that the Q input of the SET 1 Q but ADC was outside the correct limit. Observed D.C. level at 6A8A2 J8 output to be in excess of 50 mv. (32 mv is maximum value allowed). Adjusted R42 on 6A8A2 until a D.C. level of less than 10 mv. was obtained. After adjusting the D.C. level a loop B-9 test was used to confirm that the correct SR-LPM signal level was now occurring. Next loaded FL tape & confirmed that flag 1256 was no longer set, but the FL 235 message occurred. Adjusted Generator voltage & still obtained FL 235. Next observed list 5 flags and concluded that the FL 235 message was not consistent with the flags that were set. Wasted approx. 90 minutes before discovering that the flags were consistent with the FL 235. Then we looked at the boards that are contained in the 235 fault area and pulled an A0419 SN 71 from spare stock. Replaced the first listed board (2A7A1A2A324) in the fault area with the spare board and the FL 235 message cleared. (Broke seal #14 on Unit 7).		

SIGNED: J L Perry DATE 7/4/76

HME 7173 REV 2/75 REF 30.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO. PAGE NO. 91A

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		Replaced the original A0419 SN 45 board in the A324 slot & the FL 235 message occurred again. Then put the spare A0419 SN 71 in the A324 slot again & the FL 235 cleared. After correcting this fault an FL 153 occurred which indicates the Σ channel is low when it is switched into the SET 1 channel. This condition was noted on 7-3-76 & described on page 82. Since this is not a relevant failure, "T" was loaded & the test continued.			

HME 7173 REV 2/75

SIGNED: J L Perry DATE 7/4/76

REF. 80.00.08.07

D-94

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-57 TEST SPEC. REL DEMO PAGE NO. 92

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6628	INIT.
1903		"T" up and running			DSP
1904		PM3	Rerun		DSP
1904		PM 258			DSP
1906		Obtained D1 & D6 Printouts. The SR-LFM signal level is now above specified limit			DSP
1951		PM 258, 61 Basic clean on duty			[illegible]
1953		PM 258			[illegible]
2003		PM 995, 258, 995, 258	due to Normalizer		
2			being turned off on		
			Postview scope		[illegible]
2008		SOP 8 - OK			[illegible]
2013		SOP 9 - OK			[illegible]
2017		SOP 10 - OK			[illegible]
2018		D1, D6 DATA TAKEN (SOP 6)			[illegible]
2158		GEN NO 3 COOLANT LIGHT ON TEMP 180°			
		SHUT DOWN AND BROUGHT GEN NO 4 ON LINE			HB.
2229		SYSTEM BACK ON LINE (OBTAINED RADAR STATUS ERRORS & DURING CAL.			HB
2230		PM 258			HB.
2232		PM 257, 258			[illegible]
2238		PM 258			[illegible]
2243		DAILY Log Sheet #2 DATA TAKEN			[illegible]
2248		"J" BOX TURNED ON			[illegible]
2250		PM 86	R		[illegible]
2251		PM 258	X		[illegible]
2252		PM 258, 85, 86	R		[illegible]
2254		PM 258			[illegible]
2328		PM 258, 292	R		[illegible]
2329		PM 258			[illegible]

SIGNED: [signature] DATE 2/4/76

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel DEMO PAGE NO. 93

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0112		PM 258, 292 164	Rerun		HB
0113		PM164, 172, 258, 258	N.A.		
0114		PM258, 292	Rerun; Also turned		
0118			IFF off.		
0116		SEVERAL PM FAULTS ON STC SINGL RCVR			HB
		PPI's & RHI's MANY-MANY FALSE ALARMS			
0118		REBOOTED T			HB
0123		CONTINUE TO GET PM MSG'S ON STC & FALSE ALARMS			HB
0125		TOOK DQ DATA & RCVR SIGNAL VERI GOOD @ f_2 (6B)			HB
0127		f_2 DISABLED			HB
0129		SEVERAL PM MSGS			HB
0130		DISABLED f_3 f_4, f_5 & f_6			HB
0133		PM 164	Rerun		HB
0		"	"		HB
0135		"	"		HB
0136		f_2 DISABLED f_6 ENABLED			HB
0137		PM 164	Rerun		HB
0138		"	"		HB
0139		"	"		HB
0141		Reload T Tape			HB
0143		system back on			HB
0145		PM DUMP Test 5 System DOWN			HB
0		NUMERONS FLAGS FOR SET/ SUSTITUTION SET (162B, 164B, 160B, 159B, 152B, 155B, 158B, 156B)			
0223		Ran LOAD 14B DATA GOOD @ f_2 & f_3			HB
0225-0309		CHECKED EXCITER LO. OUTPUT AND IB TEST SIGNAL OUTPUT OK			HB
0309-0315		RAN SUPPLEMENTAL FC TAPE RCVR & TX OK			HB
0320		LOAD T TAPE SYSTEM BACK ON LINE			HB

SIGNED: H Bonnis DATE 7/5/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN TPS 59 TEST SPEC. _____ PAGE NO. 94

SER. NO. XA11 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0324		Pm 3			HB
0325		TOOK 01 DATA BAD CAN RERUN	AFTER Pm 3		HB
0327			RERUN		HB
0329		Pm 257, 258, 262			HB
0329		Pm 257 258			HB
0330		01 DATA OK			HB
0517		Pm 258			HB
0518		Pm 257 & Pm 258			HB
0525		PM258			HB
0529		PM257, 258			HB
0534		PM258			HB
0536		PM257, 258			HB
0652		PM 258			HB
0654		PM257, 258			HB
0668		PM258			HB
0700		PM257, 258			HB
0717		Pm 258			HB
0721		Pm 61			HB
0725		Pm 258			HB
0738		Pm 257, 258			HB
0749		PM 258			HB
0751		PM 257, 258			HB
0755		PM 258			HB
0759		PM257, 258			HB
0800		PM257, 258, 61			HB
0801		PM257, 258			HB
0802		PM258			HB
0805		Power off - 179 Power Monitor Fails HAB & RAJ on			RAJ

SIGNED: Ronald A Joseph DATE 7/5/76

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 95

SER. NO. _____ STE. NO. 0800 - 2000 TEST REQUIREMENT 7/5/76

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0810		Checked Gen #3 - radiator air vent (shutters) was			
		almost shut - jammed a stick of wood in it			
		to keep it open. Should be OK now			RJJ
0845		Power on - Gen 4 & 5			RJJ
		Supplemental FL - Tx - 4, 7, 14, 17, 22, 25, 29 out			
RAM	2,3,4, out	Rx Σ - 3, 41, 46 - FL shows P.S. bad on			
		4, 14, 22 - may not have enough room for listing moore.			
		Got FL 155 - took LIST 1,3 & 5 per SOP.			
		Couldn't find explanation on FL - Loaded T			RJJ
0940		T Running			
0941		PM 257, 258			RJJ
0942		PM 258			RJJ
0955		PM 3, PM 258	Reran		JAK
0956		PM 258	N.A.		JAK
1010		PM 3	Reran		RAJ
1011		PM 258	N.A.		JAK
1015		Completed SOP #6			RAJ
1025		As per SOP 7 issued T Sup & operating			
		PPI A (Preview) & PPI B (Post View)			
		operated per SOP 8 from 1020 - 1025			
		noted increase in false alarms on			
		Preview scope PPI A - 1025 returned			
		to pretest conditions			JAK
1036		PM 3, PM 258	Reran		JAK
1039		PM 258	N.A.		JAK
1040		operated per SOP 9 from 1035 - 1040 - noted			
		increase in false alarms and multiple cleared targets			JAK
1050		operated per SOP 10 from 1045 - 1050, noted increase			JAK
		in false alarms & clutter - clutter much denser in one quadrant			

SIGNED: Ronald A Joseph DATE 7/5/76

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HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 96

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1115		COMPLETED SOP 11 - CONTROL EXERCISING			
		NO IFF Therefore UNPERMITTED IFF CONTROL			
		NOT VALID - ON PPI B CLUTTER SENSOR			
		OUTLINE BUTTON THE LIGHT FOR OFF (WHITE)			
		POSITION BURNED OUT, SENSOR VOLUME 3			
		NON OPERATIONAL - RETURNED CONTROLS TO			
		NORM CONF. per SOP 12			JAK
1115		HEIGHT VALIDATE PER SOP 11			JAK
1130		REPLACED BURNED OUT BULBS IN CLUTTER SENSOR			
		OUTLINE BUTTON			JAK
1145		PM258, PM269	N.A.		JAK
1146		PM269	N.A.		JAK
1152		PM258, PM269	N.A.		JAK
1153		PM269	N.A.		JAK
1200		PM269, PM61	N.A.		JAK
1201		PM269	N.A.		JAK
1206		PM258	N.A.		JAK
1212		PM3	Reburn		JAK
1218		PM258	N.A.		JAK
1230		PM10	Reburn		JAK
1231		PM258	N.A.		JAK
1238		PM164	Reburn		JAK
1240		PM258	N.A.		JAK
1251		PM61	N.A.		JAK
1301		PM258	N.A.		JAK
1317		PM269	N.A.		JAK
1318		PM269, PM61	N.A.		JAK
1319		PM267	N.A.		JAK

SIGNED: Ronald A Joseph DATE 7/6/76

HME 7173 REV. 2/75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 97

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1354		PM258	N.A.		JAK
1347		PM10	Rerun		JAK
1400		PM61	N.A.		JAK
1410		PM258	N.A.		JAK
1420		PM61	"		JAK
1423		PM258	"		JAK
1435		PM61	"		JAK
1441		PM258	"		JAK
1447		PM9, PM10	ReRun		JAK
1448		PM10	ReRun		JAK
1460		PM258	No Action		JAK
1501		PM9, PM10	ReRun		JAK
1502		PM258	N.A.		JAK
1545		PM9, PM10	ReRun		JAK
1547		PM164	ReRun		JAK
1548		PM10	ReRun		JAK
1554		PM10	ReRun		JAK
1556		PM164	ReRun		JAK
1559		PM164	ReRun		JAK
1600		PM258	N.A.		JAK
1603		PM10	ReRun		JAK
1610		PM258	N.A.		JAK
1613		PM10	ReRun		JAK
1625		PM258	N.A.		JAK
1633		PM10	ReRun		JAK
1643		PM258	N.A.		JAK
1644		PM9, PM10	Rerun		JAK
1648		PM10	Rerun		JAK

SIGNED: Ronald A Joseph DATE 7/5/76

HME 7173 REV. 2/78 REF. 80.00.08.01

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 98

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1650		PM61	No Action		
1655		PM 10	ReRun		
1658		PM 111	ReRun		
1700		PM 258	N.A.		
1701		PM 10	ReRun		
1703		PM 61	N.A		
1715		PM 10	Rerun		
1716		PM 258	N.A.		
1717		PM 10	Rerun		
1722		PM 10	Rerun		
1728		PM 10	Rerun		
1729		PM 10	Rerun		
1732		PM 61	N.A		
1734		PM 10	Rerun		
1742		PM 61	N.A		
1748		PM 10	Rerun		
1750		PM 258	N.A		
1757		PM 61	"		
1805		PM 258	"		
1817		PM 269	"		
1849		PM 10	ReRun		
1853		PM 258	N.A.		
1859		PM 10	ReRun		
1900		PM 258	N.A.		
1905		PM 10	ReRun		
1906		PM 258	N.A.		
1912		PM 10	ReRun		
1913		PM 258	N.A.		

SIGNED: Ronald A Joseph DATE 7/5/76

HME 7173 REV. 2/75

REF. 80.00.08.07

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TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Rel. Demo. PAGE NO. 99

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1950		PM10	Reburn		
1951		PM258	N.A.		
1953		PM61	"		
1956		PM258	"		
1957		PM10	Reburn		
1959		PM258	N.A.		
2000		Joseph off Fox/Burris on.			MF
2010		DI D6 output not obtained due to			MF
		compiler fault - Disabled operation			
2014		"Tactical R&T" loaded system operating			MF
2016		PM258			
2016		DI D6 data taken O.K.			MF
2030		Enabled TAOC operation			MF
2032		PM258, PM86, PM96			MF
2034		PM058			MF
2044		SOP8, SOP9, SOP10 Check O.K.			MF
2103		PM257, PM258			
2105		PM258, PM269			
2107		PM257, PM258, PM269			
2109		PM164	Reran		
2110		PM258			
2112		PM164	Reran		
2114		PM 173, PM 174, PM 174, PM 258			
2115		PM 175, 258, 175, 176, 258, 186,	175, 176, 258, 186,		
		175, 176, 189, 258	N.A.		
2116		PM 186, 176, 189, 258, 186, 189, 258, 189, 258, 258	N.A.		
2117		PM 164, PM 164	Reran, Reran		
2119		PM 995-164, 172, 177, 258 - OFF AIR	Want to FL		

STE COUNT 234

SIGNED: Mort Fox DATE 7/15/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Del Demo PAGE NO. 100

SER. NO. XA-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2119		System "OFF" THE AIR	TERMINATE "T"		
2119 To 2304		SYSTEM SYMPTOMS same AS LAST NIGHT CE many false alarms both in blanked and non blanked regions. Obtained FM list 5. 5 steps set for many STC steps. (Steps 172, 174, 182, 198, 186) plus unit 6 substitution tests. Ran FL and obtained same indications. Ran Receiver test and everything looked normal, Ran transmitter test on tone 1 (using ESA program at f_2) looks good. Finally ran FL eliminating f_1 (i.e. $f_2 - f_{10}$) obtained fewer STC failures next ran FL at f_7 only obtained no STC failures, finally ran FL (steps $f_3 \rightarrow f_9$) and obtained no failures. Conclusion or Hypothesis: the X8 multiplier/amplifier intermittent at frequency f_2 and that STC steps were failing. False alarms were caused by anomalous levels being seen with multiplier turned off and high noise level existing immediately after multiplier turns on. Loaded T $f_2 \rightarrow f_7$ and after loads OK now. (Action item next time system occurs disable frequency f_2 in T to check hypothesis	TERMINATE "T"		

SIGNED: [signature] DATE 7/5/76

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HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. ANITPS-59 TEST SPEC. Rel. Demo. PAGE NO. 101

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2304		Tactical loaded	System operating		MF
2306		Computer latched up.	Operation disabled		MF
		Lost target data on PPI			
2307		Couldn't load tactical "T"			MF
		due to computer latch-up.			
		After several attempts			
		turned power to computer			
		off - then turned back on			
2325		Tactical loaded and			
		system operating.			
2326		PM258			MF
2340		Enabled "TAOC"			MF
2341		PM 258			MF
0040		STE COUNT 93 triggering off	Readjusted Divider		MF
		rapidly.	Gen Voltage to 135V		
			Fixed Problem		
0100		Tracked Target out to 252nmi			MF
		@ 57.5 (last hgt validated)			
0147		PM258, PM292	Rerun		MF
0148		PM164	Rerun		MF
0149		PM178, PM186, P181, PM258, PM186			MF
		PM181, PM258, PM186, PM258, PM258			
0150		PM 258, PM261, PM258, PM261,			MF
		PM262. False alarms showing			
		up in the short range region.			
0152		Disabled f_2, f_3			MF
0200		PM258			MF
0202		Enabled f_1 only, PPI cleared up of	False alarms		MF

SIGNED: M Fox DATE 7/5/76

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 102A

SER. NO. KN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0202		PM 258			MF
0211		PM 164	Rerun		[illegible]
0212		PM 258			[illegible]
0215		PM 164	Rerun		[illegible]
0216		PM 164	Rerun		MF
0217		PM 164, 258, 262			MF
0217		PM 258			MF
0217		PM 194			MF
0218		PM 164			MF
0220		PM 194	Rerun		MF
0221		PM 194	N.A.		MF
0223		PM 164	N.A.		MF
0225		PM 194	N.A.		[illegible]
0228		PM 164			MF
0230		PM 100, PM 164, PM 164			MF
0234		PM 194			MF
0237		PM 164, PM 194			[illegible]
0240		PM 164			MF
0241		PM 194			MF
0242		Modulator disconnected —			MF
		testing. Multiple PM 100, PM 194			
0243		Rerun	Rerun		[illegible]
0244		PM 164			MF
0247		System operation halted to			MF
		perform further testing.			
0319		Tactical "T" loaded and System operating. MDC OK			
0321		PM 258			MF
		See attached page			

SIGNED: M. Foy DATE 7/6/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS59 TEST SPEC. Rel Demo PAGE NO. 102b

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0242	0319	Same symptoms as described at 2119. Disabled frequency f_2 - symptoms still occurred. Disabled frequencies singularly until only f_7 enabled. This operated OK for a minute or two and then started with same symptoms. Looked at 75 MHz IF into Unit 6 with spectrum analyzer using loop 5A. Spectrum had many side bands 5-7 MHz apart on all frequencies $f_1 \rightarrow f_8$. f_8 was OK. This was true for both final reception test path and transmitter path. Shocked Unit 4 and spectrum cleared up. Conclusion or amplifier has intermittent that is giving results.			

HME 7173 REV. 2/75

SIGNED: H Burns DATE 7/6/26

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 103

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0537		PM258, PM292			MF
0539		PM258, PM262			MF
0540		PM258			[illegible]
0743		PM257, PM258			[illegible]
0751		PM258			[illegible]
0755		D1 D0 Data Taken	Sig out sim fr low		MF
0800		Shut down count @ 201	L. Gordon / RA Joseph		MF
0846		Power Turn on - Supplementary FL - TR 4, 7, 14, 17, 22, 29, R+E 3:41, R+A ok.			
		FL gave FL155 again - lost 5 dump.			
		HAB looked at yesterday's dump - problem is in AAZ 4 channel - only one MH flag set - can't resolve fault pattern. Loading T			[illegible]
0913		T RUNNING			[illegible]
0914		PM258, PM262	No Action		[illegible]
0915		PM258	"		[illegible]
0922		PM258, PM292	Rerun		[illegible]
0923		PM 258	NA		[illegible]
0929		PM 258, PM 262	Rerun		[illegible]
0930		PM 258	NA		[illegible]
0935		SOP #6 completed			[illegible]
0939		PM258, PM262	"		[illegible]
0941		SOP #8 completed			[illegible]
0942		PM258	"		[illegible]
0943		PM178, PM258	Rerun		[illegible]
0944		PM258, PM262	NA		[illegible]
0947		PM258	"		[illegible]

SIGNED: Ronald A Joseph DATE 7/6/76

HME 7173 REV. 2/75 REF. 80.00.08.02

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 104

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7987 6426	INIT.
0948		Completed SOP #9 – Verified SST-1 using			
		DS listings before & after.			
0949		PM178, PM158	Rerun		
0950		PM178, 181, 258, 194	"		
0952		PM 258, 262	VA		
0952		PM 258 — PM 178, PM258	Rerun		
0953		PM 194	Rerun		
0954		PM 194	Rerun		
0955		PM 258, PM262	VA		
0956		PM 258	"		
0957		PM 194	Rerun		
0958		PM 258	VA		
0959		PM 262	"		
1000		PM178, 181, 258	Rerun		
1001		PM178, 181, 258	"		
1002		PM 258, PM 262	VA		
1003		PM 262	"		
1004		PM 194	Rerun		
1005		PM 194	"		
1010		PM 258	VA		
1013		Completed SOP #10			
1035		PM 258, 61	"		
1036		PM 61	"		
1038		PM 10	Rerun		
1039		PM 258	VA		
1040		PM 10	Rerun		
1041		PM 258	VA		
1046		PM 11	Rerun		

SIGNED: Ronald A Joseph DATE 7/6/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 105

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1048		Completed SOP # 11			
1058		PM9, PM10	Rerun		
1105		PM178	Rerun		
1108		PM178	"		
1109		PM178	"		
1112		PM178	"		
1113		PM178	"		
1116		PM111	"		
1117		PM178	NA		
1119		PM292	Rerun		
1123		PM111	"		
1142		PM269	NA		
1145		PM178, PM269	Rerun		
1147		PM178	"		
1149		PM178	"		
1151		PM178	NA		
1151		Changed Pre & Post-view PPI's	Per SOP # 12		
1158		PM178, PM270	Rerun		
1159		PM178, PM181	"		
1200		PM178 Rerun @ 1207			
1207		PM178 Took PM	Dump to get flag list & restarted.		
1209		PM178			
1215		PM178, P269, PM270	Rerun		
1220		PM9, PM10	"		
1224		PM178	NA		
1219		Began getting many Power Monitor faults - Losed the line voltage - all quiet -	145 faults		
1227		PM178, PM270	Rerun		

SIGNED: Ronald A Joseph DATE 7/6/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 106

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7087 6626	INIT.
1231		PM178, PM61	NA		RMG
1232		PM178	"		RMG
1235		PM19 - Overtemp light on unit 7			
		Both A/C CB breakers tripped.			
		Shut down T. shut off power to cabinets			
		Turned on A/C's			RMG
1242		A/C Breakers tripped again			RMG
1247		Reset A/C Breakers - also lowered the line voltage			RMG
1255		Restarted T			RMG
1256		PM178, 258 ---- PM258	N.A.		RMG
1257		PM178	"		RMG
1259		PM3	Rerun		RMG
1301		PM178	N.A.		RMG
1308		PM178, 270	Rerun		RMG
1310		PM178, 181 ---- PM178	N.A.		RMG
1315		Deleting f2 to see if PM178 goes away			RMG
1316		PM178	N.A.		RMG
1318		Deleted f3			RMG
1319		PM178, 181	N.A.		RMG
1320		PM 194	Rerun		RMG
1322		PM178, 181	N.A.		RMG
1325		Running on F7 only			RMG
1326		PM178	N.A.		RMG
1327		Freq 2 thru 7 on			
1328		PM178	N.A.		RMG
1335		PM178, PM270	N.A.		RMG
1337		PM178, PM269, PM270	N.A.		RMG
1352		Dump of Final Rcve Amplitudes			RMG

SIGNED: Leo M Gordona DATE 7/6/76

HME 7173 REV. 2/75 REF. 80.00.08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 107

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1355		PM 10	Rerun		PK
1358		PM 178	N.A.		PK
1405		PM 178, PM 270	N.A.		PK
System Backup this time 1408		PM 178, PM 269, PM 270	N.A.		PK
1417		PM 178, PM 270, PM 269, PM 61			PK
1418		PAUSE INITIATED TO OPEN UNIT	#3		KAD
1425		Decreased Δ/R ATTENUATOR 3dB (Setting changed			
		from 5 to 2) Restarted T			KAD
1428		PM 3	Rerun		KAD
1432		PM 3	Rerun		KAD
1433		PM 3	Rerun		KAD
1433		PM 3	Rerun		KAD
1434		PM 3	Rerun		KAD
1442		PM 3	Rerun		KAD
1443		PM 3	Rerun @ 1448		KAD
1458		Dump of Final Rcvr Amplitudes			KAD
1501		PM 3	Rerun		KAD
1505		PM 10	Rerun		KAD
1509		Pause while Rescaling Unit 3 — Restarted			KAD
1510		PM 9, 10	Rerun		KAD
1517		PM 10	Rerun		KAD
1519		PM 61	N A		KAD
1523		PM 111	Rerun		KAD
1532		PM 9, 10	Rerun		KAD
1535		PM 10	Rerun		KAD
1539		PM 25B	N.A.		KAD
1551		PM 9, 10	Rerun		KAD
—	See	daily summary for explanation of Unit 3 work-			KAD

SIGNED: Ronald A Joseph DATE 7/1/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo. PAGE NO. 108

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1553		PM 9, 10	Rerun		
1554		PM 10	"		
1555		PM 258	NA		
1603		PM 10	Rerun		
1605		PM 258	NA		
1610		PM 9, 10	Rerun		
1611		PM 258	NA		
1612		PM 111	Rerun		
1613		PM 258	NA		
1615		PM 292	Rerun		
1616		PM 258	NA		
1621		PM 9, 10	Rerun		
1623		PM 111	"		
1624		PM 258	NA		
1632		PM 10	Rerun		
1634		PM 258	NA		
1635		PM 10	Rerun		
1636		PM 258	NA		
1639		PM 10	Rerun		
1642		PM 9, 10 Long	Rerun		
1645		PM 10	Rerun		
1647		PM 10	Rerun		
1649		PM 111	NA		
1653		PM 258	NA		
1654		PM 10	Rerun		
1656		PM 10	"		
1657		PM 10	"		
1658		PM 258, PM 61	NA		

SIGNED: Leo M. Gordon DATE 7/6/76

HME 7173 REV. 2/75 REF. 80.00.08.07

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 109

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 8628	INIT.
1659		PM61	NA		
1702		PM258	NA		
1708		PM 10	Rerun		
1709		PM 10	"		
1710		PM258	NA		
1712		PM10	Rerun		
1716		PM10	"		
1717		PM258	NA		
1725		Did a List 5 PM Dump for PM10 problem			
1728		Reboot "T"			
1729		PM10	Rerun		
1735		PM9, PM10	"		
1743		PM10	"		
1745		PM9, PM10	"		
1747		PM258	NA		
1748		PM10	Rerun		
1749		PM10	"		
1750		PM10	"		
1751		PM10 - Stopped T to Load FL			
1812		Reloaded "T"			
		Results of FC run include FC48 and			
		FC153. List 5 dump for each. Also			
		noted PS 12 and 26 show under FC361.			
1814		PM111	Rerun		
1822		PM10	"		
1829		PM9,10	"		
1829		PM258	NA		
1838		PM10	Rerun		

SIGNED: Leo M Gordon DATE 7/6/76

HME 7173 REV. 2/75 REF. (80.00.08.07)

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 110

SER. NO. Unit 1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7667 6626	INIT.
1840		PM 10	Rerun		
1847		PM 10	"		
1849		PM 9, 10	"		
1850		PM 10	"		
1851		"	"		
1853		PM 61	NA		
1911		PM 10	Rerun		
1912		PM 61	NA		
1915		PM 258	"		
1921		PM 10	Rerun		
1927		PM 10	Rerun		
1929		PM 61	NA		
1931		PM 10	Rerun		
1935		PM 258	NA		
1948		PM 10	Rerun		
1949		PM 262	NA		
2000		Joseph / Gordon off — Fox, Borris on			
2010		PM 10	Rerun		
2012		PM 262	N.A.		
2023		PM 269			
2025-2027		DISABLED FREQ 6 & 7 TO GET PG ON FREQ's 2, 3, & 5			
2029		PM 10	Rerun		
2038		PM 258			
2054		PM 261, PM 262			
2035		PM 262			
2037		PM 61			
2040		PM 258, PM 262			

SIGNED: Mort Fox DATE 7/6/76

HME 7173 REV. 2/78 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 111

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2040		PM 9, PM 10	Rerun		MP
2041		PM 258	N.A.		MP
2043		PM 262			MP
2044		PM 258, PM 262			MP
2050		PM 258, PM 104			MP
2051		PM 995, PM 000, PM 258			MP
2052		PM 262			MP
2055		PM 9, PM 10			MP
2056		PM 258, PM 262			MP
2057		PM 262, PM 143	Rerun		MP
2057		PM 995			MP
2058		PM 111, 152, PM 111, 143	Rerun		MP
2059		PM 143	Rerun		MP
2059		Turned down IFF Rx gain			MP
2100		PM 258			MP
2102		PM 262			MP
2104		PM 258			MP
2105		PM 61			MP
2116		PM 10			MP
2117		PM 258, 61			MP
2118		61			MP
2120		PM 258			MP
2155		Completed SOP 6, 8, 9, 10	Looks good		MP
		Changed to TAC B, PPI A			
2215		PM 61			MP
2228		PM 258 ✓			MP
0038		PM 10 ✓	Rerun		MP
0050		PM 258 ✓	N. a.		MP

SIGNED: Mont Fox DATE 11/6/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 112

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7087 6626	INIT.
0056		PM258✓, PM262✓			MF
0057		PM258✓			MF
0110		PM258✓, PM262✓			MF
0115		PM258✓, PM10✓	Rerun		MF
0116		PM258✓, PM262✓, PM258✓			MF
0145		PM258✓, PM262✓, PM258✓			MF
0200		PM258✓, PM262✓			MF
0202		PM258✓			MF
0343		PM10✓	Rerun		MF
0403		PM61✓			MF
0445		PM258✓			MF
0447		Disabled f_6 f_7 to get			MF
		a D6 printout @ f_2			
		XMTTR's 4, 7, 12, 14, 17, 22, 25,			
		26, (Transmitters out)			
0451		PM258✓			MF
0452		Enabled f_6 f_7			MF
0555		PM9✓, PM10✓	Rerun		MF
0605		PM61✓			MF
0650		PM258✓			MF
0709		PM257✓, PM258✓			MF
0710		PM258✓			MF
0712		PM258✓			HB
0714		PM258✓			HB
0718		PM258✓, PM61✓			HF
0720		PM258✓			MF
0721		" ✓, PM257✓			HB
0723		PM258✓			

SIGNED: J E Perry DATE 7/7/76

REF. 80.00.08.02

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 113

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 8626	INIT.
0935		PM 10	Rerun		MF
0736		PM 258			MF
0800		System Operation "STOP"	1 hr Shutdown		MF
0800		Run Transmit STATUS	FL Supplement		MF
0800		Fox / Burris Off duty			
0905		Remove Row P.S.'s OFF	rows		LEB
		12 & 26 P.S. 36 - row 12			
		P.S. 49 - row 26			
1104		Row FANS WOULD NOT COME ON, REMOVED COVER ON ARRAY INTERCONNECT BOX AND DISCONNECT LEAD ON FL 8 WHICH GOES TO FAN THERMO SWITCH. SWITCH WAS OPEN AS IT SHOULD BE. BROKE SEAL ON UNIT 5 TO DISCONNECT XI/XI WHICH FORCES RELAY IN THE DEENERGIZE POSITION. SUSPECT SHORT IN MODULE TEST BOX CABLE. FANS NOW IN OPERATION. RESEAL BOX. (XI/XI WERE LEFT OFF) NOTE - DO NOT KNOW HOW LONG FANS WERE IN THIS STATUS			LEB
1105		START SUBFL.			LEB
1146		T UP & OPERATING	PPI A, TAOCB		LEB
1155		PM 258	N.A.		LEB
1155		ERROR COUNT 365 - RESET TO 0			LEB
1207		PM 10	Rerun		

** Need to repair cable

SIGNED: J. L. Perry REF. 80.00.08.07 DATE 7/7/76

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 114

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1212		Hit Rerun and Computer interpreted			DLP
		this to be a command for changing			
		data.			
1213		Failures			
		Transmitters 7, 17, 25			
		Row Power Supplies 4, 12, 14, 22, 26			
		Σ Receivers 3			
		It appears that supplemental FL program			DLP
		for ΔAZ Receivers is limiting on center Rows			
		This does not affect system performance.			
1217		PM 258			DLP
1222		PM 111	Rerun		DLP
1224		PM 258	N G		DLP
1227		PM 258, PM 61	"		DLP
1228		PM 61			DLP
1230		PM 258			DLP
1244		After receiving FL flags, we had			DLP
		usual flags indicating ΔEL channel gain			
		low & SET 1 channel low when the			
		Σ, ΔAZ, & ΔEL channels were switched into			
		SET 1. Today a FL 168 showed up which			DLP
		indicates the ΔAZ channel 2 signal is low			
1302		PM 111	R		LEB
1304		PM 258	N.A.		
1310		FINISH PERFORMING SOP 7, 8, 9, 10			LEB
1405		PM 67			DLP
1418		PM 258			DLP
1433		PM 67			DLP

HME 7173 REV. 2/75 SIGNED: J L Perry REF. 80.00.08.07 DATE 7/7/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO PAGE NO. 115

SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1437		PM 111	Rerun		JLP
1438		PM 258			JLP
1458		PM 10	Rerun		JLP
1457		PM 258			JLP
1504		PM 258	Turned IFF equip on & off.		JLP
1500		Stopped Radiating on both	Radar & IFF		JLP
		for approximately 30 sec.	at Request of		
		Pritchard in Lab 2.			
1510		PM 258			JLP
1524		PM 61			JLP
1540		Stopped Transmitting temporarily in order			JLP
		to collect data on ΔAZ_{36} from Cmnd 23.			
		$F(\Delta AZ_{36}) = 0.68$ rather than the normal			
		value of 0.48 (i.e. 3dB higher than normal)			
		This indicates the 3 dB drop in signal			
		Level noted yesterday in log sheet 107			
		has disappeared.			
1547		Started Transmitted again			JLP
1547		PM 258			JLP
1626		PM 61			JLP
1630		PM 258			JLP
1632		PM 61			JLP
1644		PM 258			JLP
1645		PM 61			JLP
1755		PM 258			JLP
1745		PM 61			JLP
1800		PM 111	Rerun		JLP
1811		PM 61			JLP

SIGNED: J L Perry DATE 7/7/76

HME 7173 REV. 2/75 REF. 80.00.08.07

Flags from FM data at 1540 on 7-7-76

Mode	Flag	Error	CONFIG.
		$\Sigma\lvert\varepsilon_i\rvert < T_1$	
LR	117, 55A		Σ for SET 1
SR	156, 59A, 156B	SP AZ Mono	"
SR	157A, 157B	LFM AZ Mono	"
SR	155A, 155B	LFM $\Sigma\lvert\varepsilon_2\rvert < T_9$	"
SR	158A, 158B	SP EL Mono	"
SR	159A, 159B	LFM EL Mono	"
SR	160A, 510, 160B, 510A	SP AZ Mono	AZ for SET 1

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO. PAGE NO. 116

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1826		PM 258			
1844		Performed SOP 11. all controls			
		& functions were normal except for			
		problem previously recorded on Censor			
		Gate 3! Increased TPX-28 gain			
		in order to observe IFF Targets.			
1904		TAOC Enabled			
1905		PM 258, 86, 96	Rerun		
1907		PM 258, 61			
1908		PM 61			
1910		PM 258			
1913		PM 10	Rerun		
1914		PM 258, 61			
1915		PM 61			
1918		PM 258			
1919		PM 8	Rerun		
1920		PM 258			
1924		PM 10, PM 258			
1937		PM 61			
1938		PM 258			
1942		PM 258, 61			
1943		PM 61			
1946		PM 258			
1947		PM 61			
1952		PM 258			
2000		Begin Power off / Joseph Gordowa on			
		Error Count / 033			
2038		Completed SOP #6			

HME 7173 REV. 2/75 SIGNED: L E Bell REF. 80.00.0807 DATE 7/7/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 117

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2038		PM 61	NA		RAG
2040		PM 258	"		RAG
2045		Completed SOP #8			RAG
2050		Completed SOP #9			RAG
2054		PM 61	NA		RAG
2055		Completed SOP #10			RAG
2057	Ground Wire came off the chart recorder @ 1523 - noted on chart. Replaced @ 2055				
2059		PM 258	NA		RAG
2225		Disabled TAOC (Lightning in area)			RAG
2227		PM 258, PM 89	Rerun		RAG
2231		PM 89, PM 258, PM 89	Disabling TAOC is NA		RAG
2235		PM 258, PM 61	"		RAG
2236		PM 258	"		RAG
0000		PM 258, PM 61	"		RAG
0001		PM 258			RAG
0035		PM 10	Rerun		RAG
0036		PM 258	NA		RAG
0103		PM 258, 61	"		RAG
0104		PM 258	"		RAG
0135		PM 61	"		RAG
0136		PM 258, 61	"		RAG
0137		PM 61	"		RAG
0139		PM 258	"		RAG
0142		PM 258, 61	"		RAG
0143		PM 258	"		RAG
0152		PM 258, 61	"		RAG
0153		PM 258	"		RAG

SIGNED: Ronald A Joseph DATE 7/8/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 118

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0225		PM 61 ✓	NA		RAC
0226		PM 258 ✓	"		RAC
0243		PM 61 ✓	"		RAC
0246		PM 258	"		RAC
0256		PM 61 ✓	"		RAC
0258		PM 258	"		RAC
0325		PM 61 ✓	"		RAC
0326		PM 258 ✓	"		RAC
0342		PM 258 ✓, 61 ✓	"		RAC
0343		PM 61 ✓	"		RAC
0344		PM 258 ✓	"		RAC
0358		~~PM 258~~ PM 61 ✓	"		RAC
0401		PM 258 ✓	"		RAC
0456		PM 258 ✓, PM 61 ✓	"		RAC
0457		PM ~~258~~ 61 ✓	"		RAC
0501		PM 258, PM 61 ✓	"		RAC
0504		PM 258 ✓	"		RAC
0800		"T" Stopped, running Xmit Test			RAC
0805		Powered down ∴ 32 Power Monitor Faults			RAC
0846		Started Supplemented FL Testing			RAC
0947		"T" up & Running	PM 3 ✓ Rerun		RAC
0948		PM 258 ✓			RAC
0951		PM 254, 258 ✓			RAC
0954		PM 258 ✓			RAC
1004		PM 258 ✓, SOP 6-D4, D6 DATA TAKEN			RAC
1005		SOP 7 - OK			RAC
~~1009~~ 1010		SOP 8 - OK			RAC
1015		SOP 9 - OK			RAC

0307

HME 7173 REV. 2/75

SIGNED: J. F. Perry REF. 80.00.08.07 DATE 7/8/76

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HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO PAGE NO. 119

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1020		SOP 10 - OK			
1033		PM 9, 10	R		
1035		SOP 11 - CLUTTER CENSOR GATE #3 INOPERATIVE			
1037		SOP 12 - OK			
1038		PM 10	R		
1045		PM 258			
1107		Stopped "T" In order to Rerun Σ Receiver data which has a very high reading (73) on Row 18. Requested by Roger Ladine 7/8/ States Running at f2 through f7 Bad Row P.S. 4, 12, 14, 22, 26 Bad Row Transmitters 7, 17, 25 Bad Σ Receivers 3 Bad ΔAZ Receivers 38 FL Flags set: 124, 170, 160, 157, 152, 168 124 & 170 show weak AZ4 channel gain Data collected showed Flag 124 $\|AZ_4\| = 44$ ($T_h = 42$). & Flag 170 $\|AZ_4\| = 24$ ($T_h = 30$). Flags 160, 157, & 152 indicate signal weak when Σ is substituted into SET 1 channel. ~~Flag 168~~ (No data was collected). Flag 168 $\|AZ_2\| = 29.1$ (Threshold = 30).			DEP
1117		Collected Σ Receiver data again & Row 18 output is 36 rather than 73 which was obtained at 0857			
1125		Reset STE 408 error counter	with 33 total.		

SIGNED: J L Perry DATE 7/8/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 120

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1122		PM 258			
1123		PM 22	R		
1124		PM 258			
1155		Cooling Fan (B1) in Unit 11 is non-operational			
1200		TAOC ON			
1201		PM 258, 86, 94, 95	R		
1202		PM 258			
1204		PM 9, 10	R		
1208		PM 258			
1230		Took DAILY Log Sheet #2 data			
1235		PM 86, 87, 95	R		
1236		PM 86, 87, 95	R		
1237		PM 10	R		
1240		PM 86, 87, 95	R		
1247		PM 10	R		
1252		PM 258			
1255		PM 9, 10	R		
1257		PM 86, 94, 95			
1300		PM 258			
1305		PM 111, PM 258	R		
1313		PM 258			
1318		PM 10	R		
1329		PM 258, Replaced B1 in Unit	11		
1335		PM 23			
1336		PM 9, 10	R		
1340		PM 258			
1352		PM 61			
1400		PM 258			

HME 7173 REV. 2/75

SIGNED: J. L. Perry REF. 80.00.08.07 DATE 7/8/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO. PAGE NO. 121

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1409		PM 9, 10	R		
1414		RF INHIBIT ON Pba & IFF OFF			
		FOR 15SEC REQUEST OF LAB 2.			
1416		PM 143, 8658			
1418		PM 9 & 10			
1418		PM 10	R		
1422		PM 9, 10	R		
1423		PM 8	R		
1426		PM 9, 10	R		
1429		SOP 7 TAOC "A", PPI "B"			
1431		PM 10	R		
1434		PM 61	/		
1436		D1, D6 data taken			
1439		PM 10	R		
1442		PM 10	R		
1445		TAOC "OFF"			
1459		PM 10	R		
1455		CHANGED WL & Wu to +6			
1504		PM 10	R		
1509		PM 258			
1510		PM 61			
1516		No DTM's	R		
1514		PM 258			
1517		PM 9, 10	R		
1518		NO DTM's (DTM SW - OFF - TURNED SW. ON - O.K.	R		
1519		PM 258			
1525		PM 9, 10	R		

SIGNED: J L Perry DATE 7/8/76

HME 7173 REV. 2/75 REF. 80.00.08

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. DEMO. PAGE NO. 122

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6628	INIT.
1526		PM 258			
1533		PM 10	R		
1534		PM 258			
1536		PM 9, 258			
1539		PARITY ERROR ON IFF INPUT DATA, PM 258			
1545		CHANGE PAPER ROLL ON "1538"			
1610		PM 36 & 258	R		
1612		PM 258	NA		
1613		PM 132	R		
1617		PM 262	NA		
1620		PM 30	R		
1622		PM 262	NA		
1623		PM 30	R		
1625		PM 3	R		
1639		PM 61			
1643		PM 143	R		
1644		Took D2 data the first run showed SR-LFM to be 1 after Rerun SR-LFM was 78 (Threshold = 47).			
1645		PM 257, 258, 262			
1646		PM 258, 262			
1648		PM 257, 258, 262 then PM 257, 258			
1651		PM 258			
1652		PM 257, 258			
1658		PM 257, 258			
1720		changed SET 1 Constant from 55 to 130			
1727		"T" Running			
1728		PM 258			

ELECTRONIC STORES

SIGNED: J L Perry DATE 7/8/76

HME 7173 REV. 2/75 REF. 80.00.08.07

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. PEMO PAGE NO. 123

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	FCAR 7057 6626	INIT.
1737		PM 258, 262			JEP
1743		PM 258			
1745		Using a D5 Printout, the number of targets being received by the computer was 304 (Averaged over 4 printouts) with the Weather Program Disabled. When the Weather Program was enabled, the D5 printout indicated 188 targets (averaged over 4 printouts) were received by the computer.			JEP
1748		PM 178, 258, 270			JEP
1749		PM 258, 270			JEP
1749		PM 258, 269, 270			JEP
1753		PM 257, 258, 269, 270			JEP
1754		PM 258, 269, 270			JEP
1758		PM 258, 270			JEP
1759		PM 258			JEP
1805		PM 258, 269			JEP
1807		PM 178, 258, 269	R		JEP
1808		PM 258, 257, 262			JEP
1809		PM 258, 262 Collected D1	Printout		JEP
1816		PM 257, 258, 262			JEP
1817		PM 258, 262			JEP
1829		PM 258, 261, 262			JEP
1832		PM 258, 262			JEP
1837		PM 258			JEP
1855		PM 258, 61			JEP
1856		PM 258, 269, 61			JEP
1857		PM 259, 269			

SIGNED: J. L. Perry DATE 7/8/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 124

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1858		PM 258, 267, 269			DHP
1859		PM 257, 258, 262, 269			DHP
1900		PM 258, 262, 269			DHP
1901		PM 258, 269			DHP
1902		PM 257, 258, 269			LES
1904		PM 258, 269			LES
1907		PM 258			DHP
1932		PM 9, 10	R		DHP
1937		PM 258			DHP
1954		Parity Errors on IFF Input			DHP
1954		PM 258			DHP
2000		BCTZ, Parity OFF, GONOGA - ON			LES
2036		PM 61	NA		DH
2045		PM 10	Rerun		DH
2115		PM 61			DH
2120		PM 10	Rerun		DHP
2127		PM 258	NA		DH
2229		PM 257, PM 258	"		DH
2232		PM 258	"		DH
2241		PM 258, PM 262	"		DH
2243		PM 258	"		DH
2246		PM 258, PM 262	"		DH
2249		PM 258	"		DH
2305		PM 258, PM 262	"		DH
2306		PM 258	"		DH
2310		PM 258, PM 262	Rerun		DH
2311		PM 258	NA		DH
2002		Completed SOP #6			DH

SIGNED: L E Bates DATE 7-8-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 125

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0008		Completed Sop #8			LH
0015		Completed Sop #9			LH
0030		Completed Sop #10			LH
0251		PM258, PM269	NF		LH
0258		PM258	"		LH
0306		PM258, PM269	"		LH
0310		PM258, PM262, PM269	"		LH
0311		PM258, PM269	"		LH
0312		PM258, PM269	"		LH
0313		PM258, PM269	"		LH
0314		PM258	"		LH
352		PM258, PM61	"		JMK
0354		PM258	"		JMK
0442		PM258, PM262	"		JMK
0443		PM258	"		JMK
0450		PM262	"		JMK
0456		PM258	"		JMK
0458		PM257, 258	"		JMK
0459		PM258	"		JMK
0503		PM255, PM262	"		JMK
0513		PM258	"		JMK
0517		PM257, PM258	"		JMK
0519		PM258	"		JMK
0520		PM258, PM262	"		JMK
0522		PM258	"		JMK
0540		PM258, PM262	"		JMK
0544		PM258	"		JMK
0546		PM258, PM262	"		JMK

SIGNED: Leo M Gordon DATE 7/8/76

HME 7173 REV. 2/75 REF. 60.00.06.07

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 126

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0547		PM258	N.A.		
0608		PM258, PM262	"		
0611		PM257, PM258, PM262	"		
0613		PM258, PM262	"		
0616		PM257, PM258, PM262	"		
0617		PM258, PM262	"		
0623		PM257, 258, 262	"		
0625		PM258, PM262	"		
0627		PM257, 258, 262	"		
0628		PM257, PM258	"		
0628		PM258	"		
0630		PM257, PM258	"		
0632		PM258	"		
0745		STOPPED "T" BEGAN SUPPLEMENTAL			
		XMITTER TEST.			
0747		TISON POWER MONITOR			
0750		POWER OFF			
0800		BLOCKS/LIMIT ON DISTY			
0900		TOOK SUPPLEMENTAL DATA. System Operating			
0901		PM3	Reran		
0902		PM257, 258, 262			
0903		PM 258, 262			
0905		PM258			
0906		PM257, 258			
0907		PM257, 258, 262			
0908		PM257, 258			
0909		PM258			
0910		Operating as instructed by SOP 7			

SIGNED: DATE 7/9/76

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 127

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6628	INIT.
0911		PM 257, 258			
0913		PM 258 ✓			
0915		PM 257, 258			
0917		PM 258 ✓			
0919		PM 258, PM 292	Rerun		
0920		PM 257, 258, 262			
0921		PM 258, 262, 258			
0924		PM 257, 258			
0926		PM 258 ✓			
0930		RESULTS OF SUPPLEMENTAL	FL		
		PS's 4, 14, 12, 22, 26 OUT			
		TX's 7, 17, 25 OUT			
		RCVR's 5 3 OUT			
		AZ 4, 38 WEAK,			
		RESULTS FL.'S 151, 152, 157, 160 ALL SET 1 WAS ST.			
		168, 170 & AZ LOW			
0940		Took System Performance Data (SOP6)			
0941		PM 258, PM 61			
0943		PM 258 ✓			
0945		Completed SOP8			
0950		Completed SOP9			
0955		Completed SOP10			
1019		Completed SOP 11			
1051		Turned Voltage lag off on STE408			
		2¢ count of 177. Machine has been			
		counting continuously for @ 10 minutes.			
1138		Reactivated Voltage lag on STE 408			
1140		PM 10 ✓	Rerun		

SIGNED: _____ DATE 2/9/80

HME 7173 REV. 2/75 REF. 80.00.08.07

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 128

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1142		PM 258 ✓			
1143		PM 10 ✓	Rerun		
1146		PM 61 ✓			
1147		PM 9 ✓, PM 10 ✓	Rerun		
1155		Disabled Voltage Leg Strap on STE 408			
1155		PM 258 ✓			
1158		PE IFF INPUT			
1203		PM 258 ✓			
1219		PM 292 ✓	Rerun		
1220		PM 258 ✓			
1223		PM 292 ✓	Rerun		
1224		PM 258 ✓			
1227		PM9 ✓, PM10 ✓	Rerun		
1228		PM 258 ✓			
1234		PM9 ✓, PM10 ✓	Rerun		
1235		PM 258 ✓			
1236		PM 10 ✓	Rerun		
1243		PE on IFF Input Data			
1245		PM9 ✓, PM10 ✓	Rerun		
1250		PM 258 ✓			
1251		PM 61 ✓			
1254		PM 258 ✓			
1255		PM 61 ✓			
1258		PM 10 ✓			
1303		PM 61 ✓			
1307		PM 10 ✓	Rerun		
1315		PM 292 ✓	Rerun		
1323		PM9 ✓, PM10 ✓	Rerun		

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 129

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1336		PM9, PM10	Rerun		
1343		PM10	Rerun		
1348		PM10	Rerun		
1352		PM258			
1405		PM164	Rerun		
1425		PM258			
1426		PM9, PM10	Rerun		
1432		PM9, 10	11		
1504		PM258			
1520		PM 10	11		
1525		PM262			
1528		PM 10	Rerun		
1529		PM262			
1531		PM258			
1532		PM 10	Rerun		
1539		PM61			
1543		PM258			
1545		PM259			
1548		PM269, PM270			
1612		PM 270			
1629		PM 10	Rerun		
1639		PM 258			
1640		PM 61			
1648		PM 258			
1655		PM9, PM10	Rerun		
1656		PM 258			
1700		PM 10	Rerun		
1707		PE IFFINAL DATA			

HME 7173 REV. 2/75

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HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 130

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1716		PM 270✓			
1722		PM 269✓, PM 270✓			
1744		GEN CB'S TRIPPED SYSTEM OFF AIR			
		GEN NO 5 O.L. SHORT CKT IND			
1800		System Operating			
1800		PM 3✓	Rerun		
1802		PM 258✓			
1803		~~CB~~ PROBED REQ'S 3,4,5,6,7 MOMENTARILY			
		TO GET DG PRIMED OF ~~f~~ NO CHANGES IN			
		TX STATUS			
1810		PM 258✓			
1814		PM 61✓			
1817		PM 258✓ 61✓			
1818		PM 258✓			
1825		PM 10✓	Rerun		
1825		PM 10✓	Rerun		
1826		PM 258✓			
1836		PM 10✓	Rerun		
1837		PM 258✓			
1843		PM 10✓	R		
1845		PM 9✓, 10✓	R		
1849		PM ~~258~~ 258✓			
1902		PM 270✓			
1907		PM 269✓, 270✓			
1926		178, 269✓, 270✓	R		
1925		PM 258✓			
1930		PM 178✓, 269✓, 270✓	R		
1932		PM 178✓, 269✓, 270✓	R		

SIGNED: [signature] DATE 2/5/26

HME 7173 REV. 2/75 REF. 80.00.08.07

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TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 131

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1937		PM 258 ✓			
1941		PM 61 ✓			
1942		PM 258 ✓			
2000		BURNS OFF PERRY BERTR ON			
		ERROR COUNT		281	
2013		PM 61 ✓			
2015		PM 258 ✓			
2018		PM 10 ✓			
2022		PM 258, 292 ✓			
2024		PM 292 ✓	Rerun		
2025		PM 258 ✓			
2026		Parity Error on IFF			
2030		PM 258 ✓			
2032		PM 10 ✓	R		
2035		PM 9, 10 ✓	R		
2036		PM 258 ✓			
2038		PM 9, 10 ✓	R		
2039		PM 258 ✓			
2043		SOP 8 - OK, SOP-10 - OK			
2048		SOP 9 - OK			
2049		D1, D6 data taken			
2109		PM 262 ✓			
2110		PM 258 ✓			
2147		PM 258, 262 ✓			
2148		PM 252 ✓			
2151		PM 258 ✓			
2223		PM 258, 269 ✓			
2225		PM 258 ✓, 269 ✓, 270 ✓			

SIGNED: J L Perry DATE 2/9/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TTC-39 TEST SPEC. Rel. Demo PAGE NO. 132

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2226		PM 258, 262, 269, 270			
2228		PM 258, 269, 270			
2234		PM 258, 269			
2240		DISABLED F_3, F_4, F_5, F_6, F_7			
2244		D1, D6 data taken at F_2	Row 41 seems		
		bad (30) & Row 53 marginal (40).			
2245		PM 61			
2247		D6 data taken at F_2 — Row 41 still seem bad			
2250		Reenabled F_3, F_4, F_5, F_6, F_7			
2255		PM 258			
2331		PM 61			
2350		PM 258, 262			
2351		PM 262			
0027		PM 61			
0034		PM 257, 258, 262			
0035		PM 258, 262, 262			
0040		DAILY Log Sheet #2 DATA TAKEN			
0149		PM 61			
0241		PM 10	R		
0243		PM 61			
0246		PM 257, 258, 262			
0247		PM 258, 262			
0248		PM 257, 258, 262			
0250		PM 257, 258			
0252		PM 257, 258, 262			
0325		PM 257, 258			
0328		PM 257, 258, 262			
0348		PM 257, 258			

SIGNED: L. E. Best DATE 7-10-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 133

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0352		PM257, 258, 262			DOC
0353		PM257, 258			DOC
0355		PM257, 258, 262			DOC
0357		PM257, 258			DOC
0403		PM257, 258, 262			DOC
0424		PM 258, 262			LES
0426		PM 257, 258, 262			LES
0428		PM258, 262, 258			DOC
0429		PM 257, 258			LES
0433		PM 257, 258, 262			LES
0436		PM 257, 258			LES
0437		PM 257, 258, 262			DOC
0442		PM 257, 258			DOC
0513		PM257, 258, 262			DOC
0527		PM 258, 262			DOC
0528		PM 262			DOC
0529		PM 61			DOC
0556		PM258			DOC
0610		PM 257, 258			DOC
0612		PM 257, 258, 262			DOC
0614		PM257, 258			DOC
0618		PM 258			DOC
0631		PM 10	R		DOC
0632		PM 257, 258			DOC
0633		PM 258			DOC
0644		PM257, 258			DOC
0647		PM 258			DOC
0653		PM257, 258, 257, 258, 262			DOC

HME 7173 REV. 2/75 SIGNED: J L Perry DATE 7/10/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 134

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT
0721		D1, D6 data taken			
0733		PM257, 258			
0736		PM257, 258, 262, 257, 258, 262, 61			
0738		PM257, 258, 61, 257, 258			
0740		PM257, 258, 262			
0742		PM257, 258			
0747		PM258			
0750		PM257, 258.			
0753		D1, D6 data taken			
0800		BELTZ PENN } OFF, FOX, HEHN ON			
		CHESNEY }			
0800		SYSTEM OFF COUNT 294 (STE 408)			
0825		DIESEL #2, #3 on			
0845		Supplementary FL STARTED	ΣRx 3 ΔAz 38, 4 bar.		
0915		FL COMPLETED	7, 17, 25 Tx WEAK		
		FL 361 RPS 4, 14, 12, 22, 26			
		FL 155 Flags set 122, 124, 157, 160, 170, 151, 152, 154			
		Flag 122 |ΔAz| weak, 124 |Az| weak, 168 |ΔAz| weak			
		Flags 157, 160, 170, 151, 152, 154 show signals weak			
		When Σ or ΔAz are substituted for SET 1.			
0925		TACTICAL - Loaded System			
		OPERATING			
0927		PM257, PM258, PM262			
0928		PM258, PM262, PM258			
0930		PM257, PM258			
0932		AS PER SOP 7 OPERATING WITH PPI AS PREVIEW			
		& PPI B AS POST VIEW			

SIGNED: M. D. Fox DATE 2/10/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 135

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0933		PM 258 ✓			MF
0938		PM 257, PM 258 ✓	N.A.		JAC
0939		COMPLETED SOP 6 performance TESTS	D2, D4, D5, D6		JAC
0940		PM 258 ✓	N.A.		JAC
0942		PM 257, PM 258 ✓	"		JAK
0945		PM 258 ✓	"		JAK
0952		PM 61 ✓	"		JAK
0954		PM 292 ✓	Rerun		JAK
0955		PM 258 ✓	N.A		JAC
0955		COMPLETED SOP 8 · NOTED INCREASE IN THESE READINGS			
		ON PREVIEW (A) COMPARED TO POSTVIEW (B) - RETURNED			
		TO PRETEST CONDITIONS			JAC
1003		PM 258, PM 262 ✓	N.A		JAK
1004		PM 258 ✓	N.A.		JAK
1013		PM 258, PM 292 ✓	Rerun		MF
1015		PM 258 ✓	N.A		MF
1105		PM 258 ✓, PM 61 ✓	"		MF
1106		PM 258 ✓	"		MF
1108		PM 61 ✓	"		MF
1110		PM 258 ✓	"		MF
1115		PM 61 ✓	"		MF
1117		PM 258 ✓	"		JAK
1147		PM 61 ✓	"		JAK
1153		PM 258 ✓	"		JAK
1200		Diesels Dropped out.	Making adj due to surge Count		MF
1209		POWER-ON	233 7408.		MF
1219		Tactical Program Loaded	Rerun		MF
		System operating PM 3			

SIGNED: M. J. Fox DATE 7/10/96

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 136

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1219		PM 6, 995			MF
1222		PM 61	N.A.		MF
1245		AM 258	N.A.		MF
1305		PM 9, 10, PM 258, PM 10, PM 258	Rerun		MF
1306		PM 258	N.A.		MF
1315		PM 10	Rerun		MF
1316		PM 258	N.A.		MF
1319		STE 408 count at 331	Freq. unstable on generators		MF
1324		STE 408 count @ 376	all but 4 count set for voltage tag. Two counts didn't set - other two Freq. Low. Better meter readings 120-123V & Voltage Freq. @ 400 Hz		MF
1329		PM 10	Rerun		MF
1330		PM 258	N.A.		MF
1340		Shut down to balance Diesels	STE 408 count @ 593		MF
1345		Power on			
1349		Tactical Program Loaded	System operating		MF
1350		D6 D6 Data Taken	No change		MF
1358		PM 9, PM 10	Rerun		MF
1403		PM 10	Rerun		MF
1403		PM 258			MF
1410		PM 61			MF

SIGNED: M Fox DATE 7/10/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. _____ PAGE NO. 137

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7087 6626	INIT.
1427		STE 408 Count 13			MF
1427		PM10, PM9, PM10	Rerun		MF
1428		PM9, PM10	Rerun		MF
1431		PM61	N.A.		JMK
1435		PM9, 10, 61	N.A.		JMK
1436		PM10	RERUN		MF
1445		PM10	Rerun		MF
1447		PM10	Rerun		MF
1452		PM10	Rerun		JMK
1457		PM8	Rerun		JMK
1500		STE count @ 460 Generators have been balanced three times since 0800. Noticed that during 7/9/76 same symptoms only with Diesel #4,5. Conclude problem STE associated disabling voltage lag at this point. Voltage 1322-1349, freq 400 Hz normal.			MF
1501		PM10	Rerun		MF
1507		PM10	"		MF
1512		PM61	N.A.		JMK
1515		Enabled STE 408 Voltage Lag Count 460.	Still running @ cont. rate.		MF
1515		PM 10	RERUN		MF
1576		Disabled Voltage Lag	Count @ 486		MF
1525		PM61			MF
1527		PM9, PM10	RERUN		MF
1529		PM9, PM10	Rerun		MF
1532		PM111	Rerun		MF

SIGNED: M. J. Fox DATE 7/10/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 138

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1536		PM 10 ✓	RERUN		MF
1545		PM 61 -	N.A.		[illegible]
1552		PM 258 -	N.A.		[illegible]
1553		PM 9 ✓ PM 10 ✓	Rerun		MF
1557		PM 258 ✓	N.A.		[illegible]
1602		PM 10 ✓	Rerun		MF
1605		PM 61 ✓			MF
1610		PM 258 ✓			MF
1611		PM 10 ✓	Rerun		MF
1612		PM 61 -			MF
1616		PM 10 ✓	Rerun		MF
1622		PM 9, PM 10 ✓	Rerun		[illegible]
1625		PM 10	"		MF
1630		PM 10 ✓	N.A.		MF
1633		PM 258 ✓	N.A.		[illegible]
1634		PM 10 ✓	Rerun		[illegible]
1644		PM 9 ✓ PM 10 ✓	"		MF
1652		PM 61 ✓	N.A.		MF
1654		PM 9 ✓ PM 10	Rerun		MF
1657		PM 10 ✓	"		MF
1707		PM 9 ✓ PM 10 ✓	"		[illegible]
1726		PM 10 ✓	Rerun		[illegible]
1732		PM 61 ✓	N.A.		[illegible]
1751		PM 9 ✓ PM 10	Rerun		MF
1802		PM 10 ✓	Rerun		[illegible]
1805		PM 61 ✓	N.A.		[illegible]
1811		PM 10 ✓	Rerun		[illegible]
1812		PM 61 ✓	N.A.		[illegible]

SIGNED: M. Fox DATE 2/10/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 139

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1819		PM10	Rerun		
1827		PM10	Rerun		
1829		PM10	Rerun		
1832		PM178	Rerun		
1837		PM178	Rerun		MF
1838		PM 178	Rerun		MF
1839		PM 9 PM10	rerun		MF
1850		PM 9, PM 10	Rerun		
1855		PM 262	Ra		MF
1858		PM10	rerun		MF
1900		PM 178	rerun		MF
1901		PM 178	rerun		MF
1902		PM61	N.A.		
1905		PM 178	rerun		MF
1906		PM178	Rerun		
1907		PM 9, PM10	Rerun		MF
1908		PM 10	Rerun		MF
1909		PM 178	Rerun		MF
1912		PM 178	Rerun		MF
1913		PM 10	Rerun		
1914		PM 261, PM262	N.A.		
1915		PM262	N.A		
1917		PM10	Rerun		
1925		PM262	Rerun		MF
1930		PM 61			MF
1943		PM9, PM10	Rerun		
1946		PM10	Rerun		MF
1948		PM 9, PM 10			MF

SIGNED: M. J. Fox DATE 2/10/76

HME 7173 REV. 2/75 REF. 00.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 140

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1949		PM 258 ✓			MF
2000		STE 408 Enabled	Count 513		MF
		Seems Stable now			
2001		PM 10 ✓	Rerun		MF
2002		PM 258 ✓			
2002		Fox/Keen off duty Perry/Bertoff/Lebsty on			MF
2014		PM 10 ✓	Rerun		
2019		PM 262 ✓			
2021		PM 258 ✓			
2028		PM 111 ✓, PM 61 ✓	Rerun		
2032		PM 258 ✓			
2035		PM 61 ✓			
2039		PM 262 ✓			
2040		PM 262 ✓, 291 ✓	Rerun		
2042		PM 256 ✓ DS Data Collected			JEP
2043		PM 10 ✓	Rerun		
2044		PM 258 ✓			
2045		PM 262 ✓			
2048		Changed SET 1 Constant from 55$_8$ to 130$_8$			JEP
2048		PM 258 ✓			JEP
2052		PM 61 ✓			JEP
2055		PM 258 ✓			
2058		Changed SET 1 Constant back to 55$_8$			JEP
2102		PM 258 ✓			
2104		PM 10 ✓	Rerun		
2105		PM 258 ✓			
2108		PM 262 ✓			

HME 7173 REV. 2/75 SIGNED: J. F. Perry DATE 2/10/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. K&I Demo PAGE NO. 141

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 8626	INIT.
2113		PM258 ✓			
2117		PM258 ✓	Rerun		
2119		PM61 ✓			
2119		Changed SET 1 constant from 558 to 1308			
2120		PM 258 ✓			
2126		PM10 ✓	Rerun		
2128		PM 258, 262 ✓			
2130		PM258 ✓			
2132		PM262 ✓			
2134		PM258 ✓			
2136		PM 262 ✓			
2148		PM 258 ✓			
2148		after averaging a number of DS Printouts the number of detections coming into the computer was reduced from 236 to 145 per scan when the SET 1 constant was increased from 558 to 1308. With the SET 1 constant equal to 1308, the number of detections increased from 121 to 176 per scan when the SET 1 was turned off			
2152		PM 61 ✓			
		It appears from PM flags that the SET 1 gain in Unit 6 is low by ≈ 5 dB			
2157		Collected Performance Data (SOP 6).			
2158		PM 258 ✓			
2159		Completed SOP 8 - Checks Good			
2204		Completed SOP 9 - Checks Good			
2207		PM 139 ✓	Rerun		

SIGNED: J L Perry DATE 7/10/76

REF. 80.00.08.07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Kel Dano PAGE NO. 142

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2209		Completed SOP 10 - Checks Good			
2215		PM 258 ~			
2219		PM 61 ~			
2235		PM 61 ~			
2245		PM 10 ~	Rerun		
2247		PM 258 ~			
2305		PM 9 ~, PM 10 ~	Rerun		
2306		PM 258 ~			
2308		PM 61 ~			
2310		PM 258 ~			
2322		PM 995, PM 258 ~			
2324		PM 61 ~			
2325		PM 258 ~			
2326		PM 261, PM 262 ~			
2327		PM 262 ~			
2331		PM 258 ~			
2342		PM 995 ~, PM 258 ~			
2345		PM 258 ~, PM 262 ~			
2346		PM 995 ~, PM 258 ~, PM 262 ~, PM 262 ~			
2347		PM 1 ~, PM 2 ~, PM 178 ~	Rerun		
2348		PM 178 ~, PM 258 ~, ~~PM 178~~	~~Rerun~~		
2350		PM 178 ~	Rerun		
2351		PM 178 ~, PM 258 ~, PM 258 ~	Rerun		
2352		PM 261, PM 262 ~			
2353		PM 262 ~			
2354		PM 178 ~	Rerun		
2355		PM 178, 258 ~	Rerun		
2357		PM 178, 258 ~ PM 178 ~			

SIGNED: D. F. Perry DATE 7/10/76

REF. 80.00.08.07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 143

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2358		PM 11 (also Turned Censor Gate 2 on)	Rerun		JHP
0000		PM 11	Rerun		
0001		PM 11	Rerun		
0002		PM 11	Rerun		JHP
0004		PM 11	Rerun		
0005		Pause			JHP
0006		Loaded FL tape & noted an FL 155.			JHP
		The FL flags indicated no different			
		flags than was noted at 0200 on 7-10-76			
0021		Loaded "T" again.			
0023		PM 258			
0024		PM 11	Rerun		
0025		PM 11	Rerun		
0026		PM 11	"		EB
0027		PM 258			EB
0028		PM 11	R		EB
0029		PM 258			
0029		Turned Censor Gate off			JHP
0039		PM 595 & 258 - Turned CLUTTER SENSOR OUTLINE ON			EB
0041		PM 11	R		EB
0042		PM 11	R		EB
0043		PM 258	R		CSO
0045		PM 11 - TURN CSO OFF	R		CSO
0045		PM 258			
0053		PM 995, PM 258			
0054		PM 995, PM 258			
0055		PM 995, PM 258			
0055		PM 258			

SIGNED: J. L. Perry DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 144

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0056		PM 995, 258			
0100		PM11 (CSO on)	Reran		
0104		PM 258			
0104		PM11 (Turned CSO off)			
0105		PM258 (Cleared PM 11)			
		It is noted that the occurrence			
		of PM 11 is directly related			
		to the activation of the			
		clutter censor gates			
0130		PM11 (CSO Enabled in small area)	Reran		
0130		PM 258			
0147		PM 995, PM 258			
0150		PM 995, PM 258			
0152		PM11	Reran		
0153		PM 258			
0158		PM 995, PM 258, PM11 (CSO off)	Reran		
0200		PM 258			
0206		PM 995, PM 258			
0207		PM 995, PM 258, PM 995, PM 258			
0210		PM 995			
0211		PM 195, PM 197, PM 258			
0218		PM 995, PM 258			
0220		PM 995, PM 258			
0222		PM 995, PM 258, PM 995, PM 258			
0223		PM 995, PM 258, PM 995, PM 258, PM 995, PM 258			
0225		PM 995, PM 258			
0227		Change Threshold (T2) to 26			
0229		PM 258			

SIGNED: J E Perry DATE 2/11/76

HME 7173 REV 2-75 REF. 80.00.08.07 P-149

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 145

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0231		PM995, PM258			
0232		PM995, PM258			
0235		Input SET 1 ATT at 13dB			
0239		System on air			
0240		PM258			
0310		Changed Wu & Wl to +6			
0313		PM255			
0315		Changed Threshold T2 to 130			
0317		PM258			
0346		PM61			
0347		PM258			
0528		PM258, 267			
0531		PM255			
0726		PM 61			
0727		PM258			
0743		PM258, PM61			
0745		PM258			
0759		Collected D1+D6 Data			
0802		Collected D6 Data at F2			
0803		Turned System Down			
0805		Bart, Percy off, Joseph Gonowa on			
0845		Powered up -			
		Ran Supplemental FL - No change in TX or RX			
		status - Monopulse shows ΔAz 3dB too high.			
		Had problem loading FL - tape wouldn't load.			
		Powered down computer & restarted - loaded OK			
		FL 155 - took LIST 5 dump - Percy says it			
		looks OK.			

SIGNED: Ronald A Joseph DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.02

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 146

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0926		T running			RAG
0928		PM258	NA		RAG
0929		PM292	Rerun		RAG
0931		PM258	NA		RAG
0938		PM61	"		RAG
0942		PM258	"		RAG
0948		PM61	"		RAG
0949		Completed SOP #6			RAG
0952		PM258	"		RAG
0957		Completed SOP # 8			RAG
1007		Completed SOP # 9 - used DS to check before & after			RAG
1014		Completed SOP # 10			RAG
1023		PM61			RAG
1033		PM258			RAG
1042		PM11	Rerun		RAG
1043		Completed SOP #11 - No changes from past results			RAG
1050		PM 61			RAG
1107		PM292	Rerun		RAG
1113		PM292	"		RAG
1116		PM292	"		RAG
1115		PM292	"		RAG
1130		Generators dropped out			RAG
1143		Power on - Running Tx FL test			RAG
1148		T running - No change in Tx status!			RAG
1153		PM258	NA		RAG
1154		PM61	"		RAG
1203		PM269, PM270	"		RAG
1236		PM 269, 270, 292	Rerun		RAG

SIGNED: Ronald A Jaeger DATE 7/11/76

HME 7173 REV 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 147

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1240		PM 292	Rerun		RAJ
1243		PM 178	"		
1245		PM 178	"		
1247		PM 178	"		RAJ
1248		PM 178	NA		RAJ
1252		Took List 5 - Reloaded T			RAJ
1253		PM 178 - PM 258	NA		RAJ
1254		PM 178	Rerun 1258		RAJ
1259		PM 178 — Put system in "Pause" - shocked			
		(mech) unit 3 - Restarted T @ 1302			RAJ
1305		SWITCHED TO TAOC "A" & PPI "B"			
1306		PM 61			
1318		PM 258, 270	NA		RAJ
1319		PM 270	"		RAJ
1323		PM 269, 270			
1351		Parity Error on IFF	NA		RAJ
1352		PM 10	Rerun		RAJ
1356		PM 178	Rerun		RAJ
1358		PM 178	"		RAJ
1359		PM 10	"		RAJ
1400		PM 178	NA		RAJ
1401		Generators Dropped out			RAJ
1412		One Generator on-line - collecting FL Tx data.			
		Gen 5 ran out of fuel because fuel pump			
		was turned off !!			RAJ
1423		T-Running - Gen #5 overtemp light on-			
		Running w/ 2 & 4 - Tx status quo.			RAJ
1424		PM 258	NA		RAJ

SIGNED: Ronald A Jaeger DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 148

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1432		PM178	Rerun		
1434		PM178	"		
1442		PM178, 61	"		
1443		PM178	"		
1444		PM178, 258 - Put T in "PAUSE" - shocked unit3 -			
~~1452~~		+ Restarted T			
1452		PM61	NA		
1503		PM258	"		
1512		PM995, PM258, PM995, PM258, PM220			
1512	cont.	ACU AND SSPDC OUT OF SYNC			
1513		TOOK 05 - 700 TGTS in - 381 TGTS Processed.			
1514		PM178	Rerun		
1514		PM995 - Much weather!!	NA		
1515		PM000, 178	Rerun		
1516		PM178	"		
1519		PM262	NA		
1528		PM178	Rerun		
1529		PM995, 178	"		
1531		PM10	"		
1532		PM995, 178	"		
1535		PM995	"		
1536		PM995, PM178	"		
1537		PM995	"		
1538		PM000, PM178	Rerun		
1538		Attempted Censoring of WX			
1539		PM11	Rerun		
1540		PM11	"		
1541		PM995	NA		

SIGNED: Leo M Gordon DATE 7/11/76

REF 80 00 0807

HME 7173 REV. 2-75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 149

SER. NO. XM-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1542		AEC, SSPDC OUT OF SYNC	NA		
1542		PM995	"		
1543		D5 print 1273 in - 627	processed		
		WX closing in fast.			
1543		PM000, PM61	NA		
1543		PM995, PM61	"		
1546		PM995	"		
1558		PM23	Rerun		
1558		PM995	NA		
1600		PM000, PM23	Rerun		
1601		PM995	NA		
1602		PM000	"		
1603		D5 print 1065 in - 648	processed		
1603		PM995	NA		
1605		PM178, PM995	Rerun		
1606		PM995	NA		
1607		PM000, 178	Rerun		
1608		PM995, 178	"		
1609		PM995, PM000	NA		
1609		PM178 258, 995, 175, 258	Rerun		
1610		PM995	NA		
1612		PM000, 175, 995	Rerun		
1613		PM995	NA		
1613		PM000 178	Rerun		
1614		PM995 178	"		
1614		PM995	NA		
1615		PM 995, 178, 250 -	Rerun		
		980 TGTS in - 628	processed		

SIGNED: [signature] DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 150

SER. NO. XX-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1617		PM 9, 10	Rerun		RAJ
1618		PM995	NA		
1618		PM000, 178	Rerun		LY
1618		PM995, 671	"		LY
1618		PAUSE FOR LOVE TAPE ON #3			LY
1620		RUN			LY
1624		PM995	NA		LY
1625		ACU, SSPDC OUT SYNC	"		LY
1626		PM 995	N/		LY
1627		PM 000	"		LY
1628		PM995, PM10	Rerun		LY
1629		PM995	NA		LY
1630		PM000, ACU, SSPDC outsync PM995			LY
1631		PM000, PM249, 258	NA		LY
1632		PM258, PM995	"		LY
1632		Parity Errors on JFT	"		LY
1634		PM 995	"		RAJ
1637		PM258	"		LY
1638		PM995	"		LY
1640		PM 9, 10, 995, 9, 10	Rerun		RAJ
1640		PM 995	NA		RAJ
1641		PM 258, 995, 258	NA		RAJ
1642		PM995, PM258	"		RAJ
1645		PM 23	Rerun		LY
1645		PM995	NA		LY
1645		ACU, SSPDC NOT SYNC	"		LY
1648		PM995	"		LY
1648		PM1	Rerun		LY

SIGNED: Leo M Godoria DATE 7/11/76

HME 7173 REV 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 151

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1650		PM995, 178	Rerun		
1652		PM10, 178	"		
1654		PM995, 000, 23	"		
1655		PM178	"		
1656		PM178	"		
1658		PM178	"		
1702		PM178	"		
1703		PM178	"		
1704		PM178	"		
1705		PAUSE FOR PERSUASION of #3			
1706		RUN			
1707		DS run 749 in - 502 processed			
1709		PM178	Rerun		
1709		PM178	"		
1711		PM258, PM178	"		
1712		PM178	"		
1714		PM178, 258, 61	"		
1715		DS print — 771 in - 520 processed	WX PROG in		
1716		DS print 827 in - 615 "	WX PROG OUT		
1717		PM178	Rerun		
1718		PM178, 258	"		
1719		PM178	"		
1720		PAUSE			
1722		RUN			
1723		PM 178	Rerun		
1725		PM 178	"		
1726		PM 178	"		
1726		PM 995	NIT		

SIGNED: Leo M Gordon DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 152

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1627		PM000	NA		
1628		PM178, 249	NA		
1728		PM178	"		
1733		PM9, 10	Rerun		
1734		PM178	NA		
1738		System in Reset Shocked Unit 3	— Rerun		
1739		PM178	NA		
1739		PM178	R		
1740		PM3, 178	R		
1742		PM995	NA		
1743		PM178, 995, 178	R		
1744		PM178	R		
1745		PM178	R		
1746		PM995	NA		
1747		PM000, 178, 995, 178, 995, 178	R		
1748		PM 995, 000	NA		
1749		PM178, 995	R		
1749		Took D5 data	NA		
1750		PM000, 995, 1	NA		
1751		PM 2, 178	"		
1752		PM 995, 178	"		
1753		PM 995, 178	"		
1754		PM 995, 178	"		
1755		PM 995's & 178's	"		
1757		PM 995's & 178's	"		
1758		PM 995 & 178	"		
1759		"PAUSE" - opened up Unit 3 -	decreased Az		
		Attenuator 1 dB - Broke Lead	#33 - Restored @ 1803		

(changed setting from 2 to 1)

SIGNED: DATE 7/11/76

HME 7173 REV. 2/75 C. REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 153

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1759 (cont'd)		Obtained concurrence w/ MC Donald - left message for Stan Blazkow to call when he returns. MC Donald said that Stan could seal the cabinet later this evening.			
1805		PM 61	NA		
1806		PM 995, 61	NA		
1807		PM 995, 61	"		
1812		PM 995, 61	"		
1821		PM 270	"		
1824		PM 995, 27			
1825		SYSTEM MALFUNCTION, RESTART			
1825		PM 995, 000, 10			
1826		PM 995, 996, 995, 996			
1827		PM 3, 995			
1828		PM 19, 995, 19	R		
1832		PM 995	NA		
1834		ACU & S/SDE ARE NOT IN SYNC			
1836		PM 995			
1838		NO DTM's			
1844		Rebooted T — all OK			
1845		PM 20	R		
1847		PM 178	R		
1848		PM 178	R		
1849		SYSTEM MALFUNCTION, RESTART			
1850		PM 995			
1851		PM 996	R		
1853		PM 995, 250			
1855		PM 995, 250, 995, 250, 995, 250			

SIGNED: [signature] DATE 7/11/86

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. DEMO PAGE NO. 154

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1856		~~RCU~~ & S/SPOC out of sync	N.A		
1901		PM 10	Rerun		
1904		Lost 60n - ~~BACK~~ ON			
1905		PM10	Rerun		
1909		PM10	R		
1916		PM10	R		
1920		PM262	NA		
1928		PM9,10	R		
1929		PM 10	R		
1930		PM 258			
1931		PM10	R		
1940		PM10	R		
1941		PM10	R		
1943		PM262, 61	N.A		
1943		PM61	"		
1949		PM258	"		
1957		PM262, 61	"		
1952		PM61	"		
1955		PM258	"		
2015		PM10 Jason Gordana for Burnside	R		
2006		PM258	N.A		
2007		PM 995, PM258	N.A.		
2010		Parity ~~Errors~~ on Diff input ~~DATA~~	N.A.		
2022		PM258, 995, 258	N.A.		
2014		PM10	R		
205		PM258	N.A		
2019		PM995, PM258	N.A.		
2024		PM 10	R		

SIGNED: W. D. Fox DATE 7/10/76

HME 7173 REV. 2 75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/FPS 54 TEST SPEC. Rel. Demo PAGE NO. 155

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2025		PM 258			MR
2030		Completed Daily Log #2			ME
2035		PM 995, 258	N.A.		JAR
2035		COMPLETED SOP 6 - ROW PERFORMANCE AT			
		F7 XMITTERS {13, 25, 41, 14, 22, 26, 30, 7, 4			
		12, 40} all low			
2037		PM1, PM2	Rerun		JAR
2038		PM258	N.A.		JAR
2045		Performed SOP 8 NORMALIZER TEST, NOTED			
		INCREASE IN FALSE ALARMS ON PREVIEW (A)			
		Relative to POSTVIEW (B)			JAR
2056		SOP 9 Completed Seems O.K.			
2100		SOP 10 completed Seem OK			JAR
2106		PM 61	N.A.		JAR
2112		PM 258	"		JAR
2117		PM 61	"		JAR
2119		PM 258	"		JAR
2120		PM 258 PM 61	"		ME
2121		PM 61	"		ME
2124		PM 258	"		JAR
2131		PM 9 - PM 10	Rerun		MR
2134		PM 258, PM 61			ME
2135		PM 61, PM 258			ME
2139		PM 61			ME
2142		PM 258			JAR
2145		PM 9, 10	Rerun		JAR
2146		PM 258	N.A.		JAR
					ME

SIGNED: M J Fox DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 156

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2150		Lamp s on Display burned out.	Replaced Lamp All 387 Lamps		MF
		PPI A			
		DS 1,2,4,5 Writing Surface			
		DS1 overlay Illum			
		DS1 Sweep brightness			
		DS1,2 Video			
		DS1,2 Range marks			
		DS1 Symbol Intensity			
		PPI B			
		DS1-5 Writing Surface			
		DS1,2 Overlay Illum.			
		DS2 Readout Illum.			
		DS2 Interceptor Range miles			
		DS1,2 Target Range miles			
		DS1,2 Target Light X/100 ft.			
		DS1,3 240 mile sweep			
		RHI			
		DS1,2 MTDS/GCI			
2240		Contacted DCASO R. Lavine in connection with adj. to STC attenuator (PM178 Msg's R. DECAT 5th FT) Agreed to operate system and reseal in the morning.			MF
0014		PM258, 262	N.A.		JAC
0015		PM258	"		JAC

SIGNED: M Fox DATE 7/11/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 157

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0225		PM 262	N.A.		
0226		PM 258	N.A.		
0230		Control Settings changed	PPI B, TADC A		
0543		PM 258 PM 262			
0544		PM 258			
0550		PM 258			
0748		PM 61			
0800		Fox / Burris off duty / Gordon, Joseph on System / Shutdown			
0800					
0845		Power on - Gen 2 & 3 - Running Supplemental FL			
0902		Loaded 'T'			
0903		PM 3	Rerun		
0904		PM 257, PM258, PM 262			
0907		Collected Performance Data (D1+D6)			
0908		Operating as per SOP 7 (TADC B)			
0916		PM 257, PM 258			
0920		Completed SOP 8 - Checks Good			
0924		PM 258, PM 258, PM 262			
0925		Completed SOP 9			
0926		PM 258			
0930		Completed SOP 10 - Checks Good			
0933		PM 257 258			
0935		PM 258			
0936		PM 258, PM 262			
0940		Supplemental FL indicates no change in Tx or Rx status			
		Monopulse data indicates A2 gain high - ℓ was - 1.6			
		because of calculation limitation - actual value was 2.11			
		FL 155 - took list 5 again.			

SIGNED: Ronald A Joseph DATE 7/12/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 158

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0940		PM 258			
0943		Completed SOP 11 - Checks OK			
0951		PM 258, PM 262			
0953		PM 258			
0955		PM 258, PM 262			
0957		PM 258			
0958		Broke seals on display console to try to isolate			
		The 12 rpm problem - system	still running		RAJ
1002		PM 258, PM 292	Rerun		
1003		PM 258			
1005		Stopped T to allow Leo to pull boards in display			RAJ
		System continues to radiate as T/O	still running		
1014		Found bad 407 board - replaced w/ SN 21 (Eng'g bd)			RAJ
		System stopped to get PSM data.			
		BOARD IN 3A8A14A3-32119 Serial #103			
1020		T back up.			RAJ
1026		PM 258			RAJ
1022		Went to 12 Rpm to verify	fix		RAJ
1023		PM 258, 6'			RAJ
1026		PM 258			RAJ
1038		PM 258, PM 292			
1040		PM 258, PM 262			
1042		System appears to be behaving normally - no detection			
		beyond 200 mi. - went back to 6RPM			RAJ
1043		PM 258, 262, PM 258	NA		RAJ
1148		PM 178, PM 258	Rerun		
1149		PM 178, PM 258, PM 258			
1156		PM 258, PM 262			

SIGNED: Leo M Gruebna DATE 7/12/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 159

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1157		PM 262			
1158		PM 178	Rerun		
1206		PM 258			
1209		PM 258, PM 262			
1212		PM 258			
1213		PM 258, PM 262			
1221		PM 258			
1223		PM 258, PM 262			
1226		PM 258			
1229		PM 258, 61, 258, 262, 61			
1232		PM 258, 262, 258			
1247		PM 258, PM 262			
1253		PM 258			
1259		PM 257, 258, 257, 258, 262			
1305		PM 258, 262			
1312		PM 258			
1313		PM 258, 262			
1314		PM 257, 258, 262			
1317		PM 258, 262			
1319		PM 257, 258, 262			
1321		PM 258, 262			
1322		PM 258			
1325		PM 258, 262			
1326		PM 258			
1328		PM 258, 262			
1329		PM 258			
1334		PM 258, PM 262			
1336		PM 258			

SIGNED: Leo M Gordona DATE 7/12/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 160

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1343		PM258, PM262			
1344		PM258			
1350		PM258, PM262			
1352		PM 258, PM261, PM262			
1354		PM 258, 262			
1358		PM 258			
1401		PM 258, 261, 258, 261, 262			
1402		PM 258, 262, 258			
1404		PM 258, 262			
1409		PM 258, 262, 61			
1414		PM 258, 262			
1424		PM 258			
1430		PM 258, 269			
1431		PM 258, 269, 270			
1433		PM 258, 257, 269, 270			
1434		PM 258, 269, 270			
1435		PM 178, 258, 269, 270, 178, 257, 258, 269, 270	— Rerun		
1437		PM 178, 257, 258	Rerun		
1438		PM 178, 258			
1440		PM 178, 258			
1441		PM 178, 257, 258, 61			
1443		PM 178, 258, 258			
1454		PM 258, PM269			
1455		PM 258, PM 269 PM 270			
1456		PM 178, PM 258, 269, 270			
		PE IFF INPUT			
1457		PM 178, PM 258	Rerun		
1459		PM 178, 257, 258, 178, 258	Rerun		

SIGNED: Leo M Gardenier DATE 7/12/76

HME 7173 REV. 2/75

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 161

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1501		PM 178, 257, 258	Rerun		
1502		PM 178, 257, 258	Rerun		
1504		PM 178, 257, 258			
1505		Stopped "T" Loaded Supplemental	FC to		
		investigate PM 178			
1518		"T" UP AND RUNNING			
1519		PM 257, 258, 262			
1806		PM 258, 262, 262			
1828		PM 9 PM 10	Rerun		
1834		PM 61			
1838		PM 258			
1846		PM 257, 258, 257, 258, 262			
1925		PM 258, 262, 262			
1929		PM 257, 258, 262			
2030		TOOK DAILY LOG SHEET #2 DATA			
2031		SOP 6 DATA TAKEN - SIGNAL OUT LOW AT F_7			
		& F_2 ; RAW PERFORMANCE - Following Xmtrs			
		Reading Low - 4, 7, 12, 14, 17, 23, 25, 26, 30, 50 at			
		F_6			
2038		SOP 8 & 10 - OK			
2045		SOP 9 - OK			
0108		TAOC ENABLED			
0109		PM 89, 94, 95			
0110		PM 111			
0115		PM 252, 258, 262			
0300		CHANGE WEATHER BIAS K TO +12			
0304		PM 258, 257, 262			
0515		PM 257, 258, 262, 61			

SIGNED: M. J. Fox DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 162

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0517		PM 257, 258, 262			DOC
0519		PM 258, 262, 262			DOC
0520		PM 257, 258, 262			DOC
~~0255~~		PM 257			~~MF~~
0255		Tx Rows OUT, 4, 7, 12, 14, 17, 22, 25, 26			MF
0800		System SHUTDOWN			MF
0800		Fox / Burris OFF Duty			MF
		PERRY / BERTZ			
0905		STARTED SUPPLEMENTAL FL			
		Power Supplies put on array			
		Row 4 SN 14			
		" 14 " 5			
		" 22 " 55			
0915		Collected data on FL Flags			
0930		"T" ~~Failed~~ ΔAZ Receiver Noise high, took			DFP
		data with 3 dB Pad inserted at ΔAZ Unit 6 input			
0953		"T" up & running			
0954		PM 109			DFP
0955		PM 109			DFP
		Equipment Status 7/13/76 0900			DFP
		Transmitters Out 7, 17, 25, 29			
		Row P.S. off Array 12, 24			
		Row Receivers ΔAZ 38 marginal			
		FL Data			
		Normal Config $\|\Delta AZ_2\| = 39$ $\|\Delta AZ_1\| = 29$	Threshold = 42		
		Σ for SET 1 $\|\Sigma_4\| = 19.8$ $\|\Sigma_3\| = 20$ $\|\Sigma_2\| = 9.4$ $\|\Sigma_1\| = 19.3$	Threshold = 24		
		ΔAZ for SET 1 $\|\Delta AZ_2\| = 16.7$	Threshold = 42		
		ΔEL for SET 1 $\|\Delta EL_2\| = 16$	Threshold = 33		

SIGNED: J L Perry DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 163

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1007		PM 257, 258, 262			DLP
1008		PM 258, 262 then PM 262			DLP
1009		PM 258			DLP
1012		PM 257, 258 PM 257, 258, 262			DLP
1017		PM 109, 257, 258, 262	Rerun		DLP
1018		PM 257, 258, 262, 61			DLP
1028		PM 257, 258, 262			DLP
1029		PM 257, 258, 262, 292	Rerun (1032)		DLP
1034		PM 257, 258, 262			DLP
1055		PM 257, 258, 262, 292	Rerun		DLP
1056		PM 257, 258, 262			DLP
1126		PM 257, 258, 262, 292			DLP
1133		PM 257, 258, 292	Rerun		DLP
1134		PM 257, 258, 262			DLP
1135		PM 258, 262 PM 262			DLP
1136		PM 258			DLP
1137		PM 257, 258 PM 257, 258, 262			DLP
1141		PM 257, 258			DLP
1148		PM 257, 258, 262			DLP
1152		PM 257, 258, 262, 292	R		[illegible]
1154		PM 257, 258, 262			[illegible]
1155		PM 258, 262, 268			[illegible]
1156		PM 257, 258			DLP
1202		PM 257, 258, 262			DLP
1203		PM 257, 258, 262, 292			DLP
1204		PM 257, 258, 292	Rerun		DLP
1205		PM 257, 258, 262			DLP
1206		PM 257, 258 PM 258			DLP

HME 7173 REV. 2/75

SIGNED: J L Perry DATE 2/13/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 164

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1208		PM257, 258			DFP
1209		PM257, 258, 262			DFP
1216		PM257, 258			DFP
1219		Collected D1 & D6 data (SOP 6)			DFP
1223		PERFORMED SOP 7 There were no observable differences between PPI A & PPI B			DFP
1228		PM 257, 258, 262			EG
1229		PM 257, 258			DFP
1230		PERFORMED SOP 8. THERE WAS AN INCREASE IN FALSE ALARMS WITH NORMALIZER OFF			DFP
1238		PM 257, 258, 262			DFP
1240		Change WU & WL to +6 & SET 1 Constant to 130$_8$			DFP
1244		PM 257, 258, 262			DFP
1245		PM 256, 262 PM258			DFP
1247		PM257, 258 PM 257, 258, 292	Rerun		DFP
1250		PM 257, 258, 262			DFP
1251		PM 258, 262 PM258			DFP
1253		PM 257, 258			DFP
1255		Performed SOP 9. The number of detections received by the computer increased from 207 to 261 with SET 1 off.			DFP
1256		Performed SOP 10. An increase of false alarms was seen with MTI Off			DFP
1300		PM257, 258, 292	Rerun		DFP
1305		HI VALIDATE			EG
1307		PM 292	R		EG
1308		PM 257, 258, 262			DFP
1309		PM 257, 258 PM 258			DFP

SIGNED: J. L. Perry DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 165

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1313		PM257, 258 PM257, 258, 262 PM258, 262			DEP
1315		PM258			DEP
1316		PM 258, 292	Rerun		DEP
1317		PM 257, 258 PM258			DEP
1318		Performed SOP 11. Used Cursor State #1			DEP
		all controls functioned normally			
1332		PM257, 258, 259			DEP
1337		PM 257, 258			DEP
1338		PM258			DEP
1339		PM257, 258			DEP
1342		PM258 PM258, 262			DEP
1343		PM258			DEP
1343		PM 258, 292			DEP
1344		PM 257, 258, 292			DEP
1345		PM258, 292			DEP
1347		PM257, 258, 292			DEP
1350		Turned TPX-28 Receiver gain	down		DEP
1353		PM258, 292	Rerun		DEP
1355		PM 257, 258, 262			DEP
1356		PM 258, 262 PM258			DEP
1410		PM257, 258			DEP
1414		PM258			DEP
1419		PM 257, 258			DEP
1421		PM 995, 258			DEP
1424		PM 995, 258			DEP
1428		PM257, 258			DEP
1428		PM 258			DEP
1431		PM 257, 258			DEP

HME 7173 REV. 2/75

SIGNED: J L Perry DATE 7/13/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Acceptance PAGE NO. 166

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1435		PM 257, 258	N/A		LEB
1439		PM 258	"		LEB
1442		PM 258			LEB
1445		PM 258, 270			LEB
1452		PM 147 258, 270			LEB
1458		PM 258 262			LEB
1455		PM 258			LEB
1520		PM 257, 258			LEB
1522		PM 258			LEB
1527		PM 257, 258, 258			LEB
1530		PM 257, 258			LEB
1531		PM 258			LEB
1537		PM 257, 258			LEB
1539		PM 258			LEB
1541		PM 257, 258			LEB
1543		PM 258			LEB
1544		PM 257, 258			LEB
1546		PM 258			LEB
1553		PM 257, 258			LEB
1554		PM 258			LEB
1613		PM 257, 258			LEB
1614		PM 258			LEB
1630		PM 257, 258			JBP
1632		PM 258			JBP
1637		PM 257, 258			JBP
1639		PM 258			JBP
1653		PM 257, 258			JBP
1655		PM 258			JBP

HME 7173 REV. 2/75

SIGNED: J P Perry REF. 80.00.08.07 DATE 7/13/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 167

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
~~1810~~	1710	PM 257, 258			DLP
1715		PM 258			DLP
1718		PM 257, 258			DLP
1720		PM 258			DLP
1724		PM 257, 258			LES
1725		PM 258			DLP
1727		PM 257, 258			DLP
1728		PM 258			LES
1729		PM 258 #61			LES
1730		PM 258			LES
1743		PM 257, 258			LES
1750		PM 258			LES
1759		PM 257, 258			LES
1800		PM 258			LES
1802		PM 257, 258			LES
1809		PM 258			LES
1810		PM 257, 258			LES
1813		PM 258			LES
1815		PM 257, 258			LES
1817		PM 258			LES
1820		PM 257, 258			LES
1822		PM 258			LES
1824		PM 257, 258			LES
1825		PM 258			LES
1827		PM 257, 258			LES
1830		PM 258			LES
1832		PM 257, 258			LES
1837		PM 258			LES

HME 7173 REV. 2/75

SIGNED: D L Perry DATE 7/13/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&L Demo PAGE NO. 168

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1838		PM 257, 259			KES
1835		PM 257, 259, 262			KES
1843		PM 257, 258			JHP
1851		PM 257, 258, 262			JHP
1851		DI & DG Data taken			JHP
1909		PM 257, 258			JHP
1912		PM 257, 258, 262			JHP
1918		PM 257, 258			JHP
1928		PM 257, 258, 262			KES
1930		PM 257, 258			JHP
1932		PM 257, 258, 262			JHP
1947		PM 257, 258 PM 257, 258, 262			JHP
2000		Perry / Berty off Joseph / Gordon on			
2033		PM 257, 258			RKA
2035		PM 258			AHO
2039		PM 258, PM 257			LL
2049		PM 10	Rerun		BJ
2049		PM 258, 262	NA		LL
2054		257, 258, 262			LL
2055		258, 262			LL
2057		" " 257			LL
2117		PM 257, 258, 261, 262			RKA
2119		PM 257, 258, 262			RKA
2120		SOP 8 & 10 completed			RKA
2122		PM 257, 258, 261, 262			RKA
2123		PM 257, 258, 262			RKA
2126		PM 257, 258, 261, 262			RKA
2128		PM 164	Rerun		RKA

SIGNED: Ronald A Joseph DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.01

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 169

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2129		PM 164 – PM 257, 258, 262			RAG
2138		PM 258, 262			RAG
2130		Completed SOP # 9			RAG
2131		PM 257, 258, 262 – 257, 258, 261, 262			RAG
2132		PM 257, 258, 262			RAG
2135		PM 258, 258, 261, 262			RAG
2136		PM 257, 258 262			RAG
2138		PM 257, 258, 261, 262			RAG
2140		PM 257, 258, 262			RAG
2142		PM 257, 258, 261, 262			RAG
2143		PM 257, 258, 262			RAG
2146		PM 257, 258, 261, 262			RAG
2148		PM 257, 258, 262			RAG
2151		PM 257, 258, 261, 262			RAG
2152		PM 257, 258, 262			RAG
2153		PM 257, 258, 262, 220			RAG
2154		PM 257, 258, 261, 262, 220			RAG
2156		257 258 262, 220			RAG
2158		PM 164	Rerun		RAG
2159		PM 182, 179, 187, 188, 257, 262	Rerun		RAG
2200		PM 257, 258, 262			RAG
2201		PM 164	Rerun		RAG
2202		PM 164	"		RAG
2203		PM 164	"		RAG
2204		PM 111, 164 – 111, 182, 257, 258, 261, 262 –			
		PM 111, 258, 261, 262	Rerun		RAG
2205		PM 257, 258			
2206		PM 164	Rerun		RAG

SIGNED: Ronald A Joseph DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.00

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 170

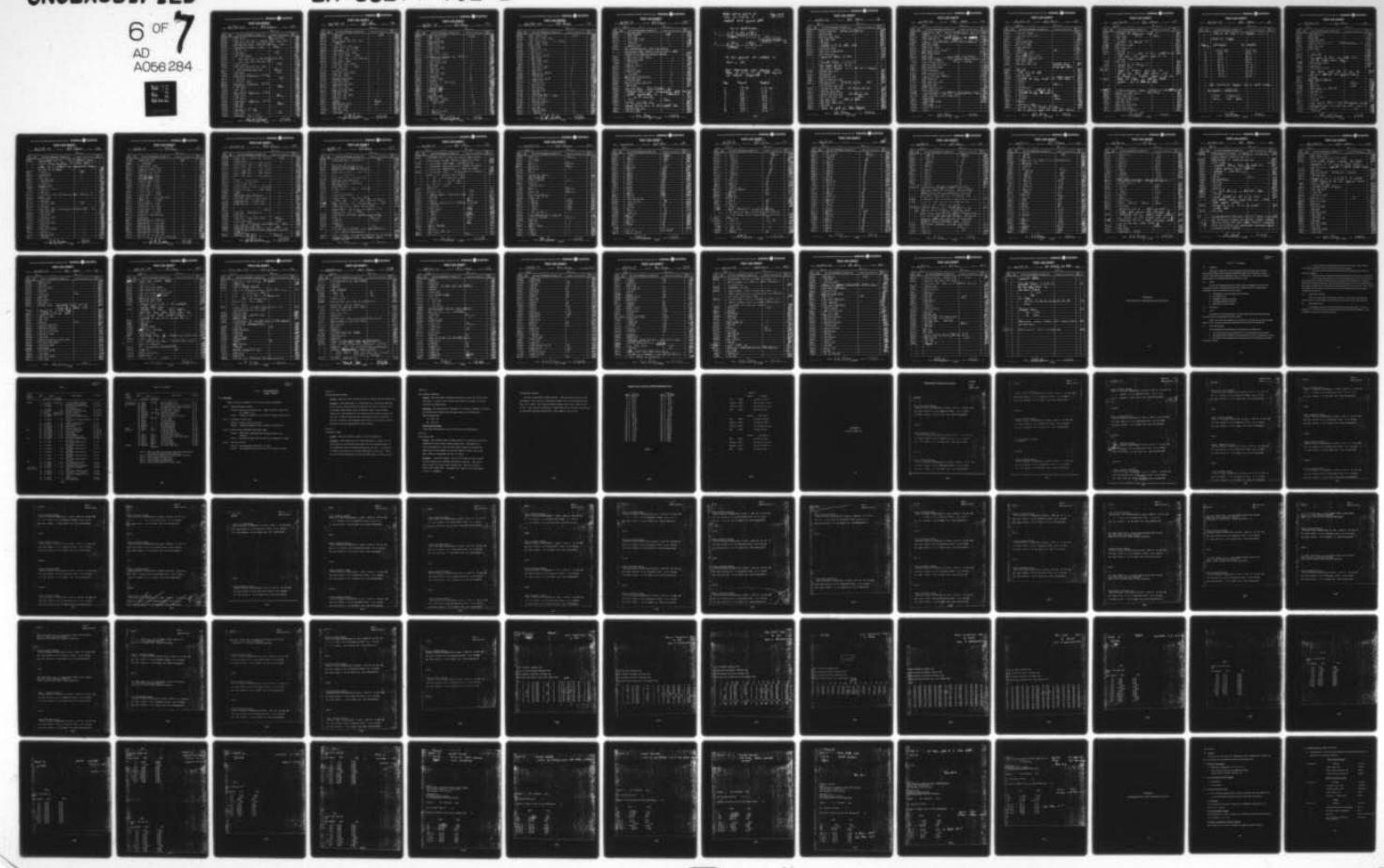
SER. NO. STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2207		PM164 – 182, 257, 258 – 257, 258			RAJ
2208		PM 258			RAJ
2209		PM 173	Return		RAJ
2209		PM 164	"		RAJ
2210		PM 164	"		RAJ
2212		164	"		RAJ
2213		164	"		RAJ
2214		164	"		RAJ
2215		164, 182, 173, 182, 257, 258, 261, 262	"		RAJ
2216		164	"		RAJ
2217		164	"		RAJ
2218		164 – 257, 258, 262	NA		RAJ
		M5, 257, 258, 262, 175, 176, 257, 258, 262	"		
2220		164	Return 2223		RAJ
2223		Enabled weather program			RAJ
2224		PM 249, 257, 258, 261, 262	NA		RAJ
2225		PM 257, 258, 261, 262 – 257,	258, 262 "		RAJ
		PM 180, 257, 258, 262 – 180, 252,			
		258, 261, 262 – 180, 187,	257,		
		258, 261, 262 – 164	Return		RAJ
2229		164, 257, 258, 257, 258	"		RAJ
2230		164	Return		RAJ
2231		164	"		
2232		164	"		
2233		104 – 184, 187 – 187	"		RAJ
2234		164	"		RAJ
2237		164 – 179, 184, 187 – 184, 187 –			
		187 – 258, 262			RAJ

SIGNED: [signature] DATE 9/17/80

AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

6 OF 7
AD
A056 284



HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 171

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2238		PM 164	Rerun @ 2244		
2246		PM 182, 187, 261 – 187, 261 –	187 – 176, 187		
2247		PM 176, 187, 258 – 176, 187, 258, 262 –	164		
2252		Disabled weather mode –	Rerun		
2253		PM 9, 10	"		
2255		PM 164	NA		
2256		PM 258, 262	"		
2256		250, 258, 262 – 250, 257, 258, 261, 262			
2257		180, 250, 257, 258, 261, 262			
2258		PM 164	NA		
2300		PM 250, 257, 258, 261, 262	"		
2301		257, 258, 261, 262, 164	Rerun		
2302		PM 164	NA		
2306		Disabled frequencies 2 → 6.			
2307		PM 258	NA		
2315		PM 258, 262	"		
2322		Enabled frequencies 6 & 7			
2323		PM 164	Rerun		
2324		PM 164			
2325		Enabled frequencies 5 & 7			
2325		PM 164	Rerun		
2327		PM 164			
2328		Enabled frequencies 4 & 7			
2328		PM 164	Rerun		
2329		PM 164			
2330		Enabled f3 only			
234		PM 257	NA		
2342		Enabled f3 & f7			

SIGNED: Ronald A Joseph DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.01

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 172

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2343		PM 258	NA		
2347		PM 258, 262	"		
2349		Enabled f2, f3, f7			
2349		PM 61	"		
2354		PM 257, 258, 262	"		
0004		Enabled f2 → f7			
0005		PM 257, 258, 262	"		
0006		PM 258, 262 – 258	"		
0008		PM 257, 258 - 257, 258, 262	"		
0012		PM 258, 262	"		
0013		PM 257, 258, 262	"		
0014		PM 258, 262, – 258	"		
0016		257, 258	"		
0038		PM 257, 258, 262	"		
0043		PM 257, 258	"		
0047		PM 257, 258, 262	"		
0049		PM 257, 258	"		
0055		PM 257, 258, 262	"		
0058		PM 257, 258	"		
0105		PM 257, 258, 262	"		
0110		PM 257, 258	"		
0118		PM 257, 258, 262	"		
0120		PM 257, 258	"		
0121		PM 10	Rerun		
0122		PM 257, 258, 262	NA		
0123		258, 262, 258	"		
0128		PM 257, 258	"		
0130		PM 258			

SIGNED: Leo M Goulora DATE 7/13/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 173

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0132		PM 257, 258	NA		
0143		PM 258	"		
0144		PM 257, 258	"		
0146		PM 258	"		
0148		PM 257, 258	"		
0150		PM 258	"		
0155		PM 257, 258	"		
0155		— changed paper on TTY —			
0206		PM 258	"		
0208		PM 257, 258	"		
0209		PM 258	"		
0218		PM 257, 258	"		
0225		PM 258	"		
0242		PM 257, 258	"		
0244		PM 258	"		
0246		258, 259	"		
0248		PM 258 — 257, 258	"		
0252		PM 258	"		
0254		RDP	"		
0300		PM 257, 258	"		
0304		258	"		
0307		PM 257, 258	"		
0335		PM 257, 258	"		
0358		257, 258	"		
0404		" "	"		
0417		" "	"		
0425		PM 257, 258	"		
0427		PM 258	"		

SIGNED: Ronald A Joseph DATE 7/14/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 174

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0428		PM 257, 258	NA		RH
0429		PM 257, 258, 262	"		RH
0430		PM 258, 262 — 258	"		RH
0436		PM 257, 258	"		RH
0437		PM 258	"		RH
0440		PM 257, 258	"		RH
0443		PM 258	"		RH
0447		PM 257, 258	"		RH
0458		PM 258	"		RH
0500		PM 257, 258	"		RH
0505		PM 258	"		RH
0507		PM 257, 258	"		RH
0508		PM 258	"		RH
0537		PM 257, 258	"		RH
0546		PM 258	"		RH
0554		PM 257 258	"		RH
0558		PM 258	"		RH
0616		PM 257, 258	"		LL
0624		PM 258	"		RH
0628		PM 257, 258	"		LL
0634		PM 258	"		LL
0642		PM 257, 258 - 258	"		RH
0646		PM 257, 258	"		LL
0649		PM 257, 258, 61	"		LL
0649		PM 258, 61	"		LL
0650		PM 258	"		LL
0651		PM 257, 258	"		LL
0653		PM 258	"		LL

SIGNED: Leo M Gordon DATE 7/14/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 175

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

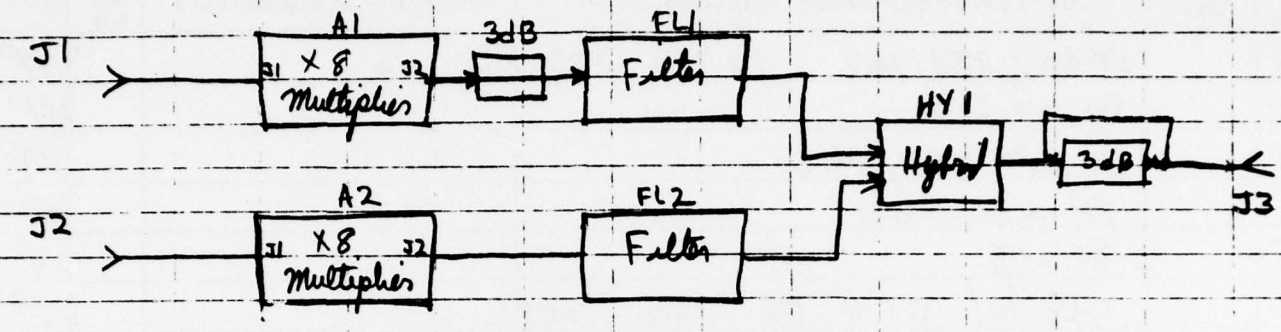
DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT
0654		PM 257, 258	NA		RH
0658		PM 258	"		RH
0659		PM 258, 258	"		RH
0700		PM 258	"		RH
0701		PM 257, 258	"		RH
0702		FOR INFORMATION: THE MAD BULB SNATCHER HAS STRUCK THE DISPLAY KEY-BOARD FOR REPLACEMENT BULBS			RH
0711		PM 257, 258, 262	"		RH
0712		PM 257, 258	"		RH
0728		PM 258	"		RH
0730		PM 258, 262	"		RH
0732		PM 258	"		RH
0733		PM 257, 258	"		RH
0739		PM 258	"		RH
0742		PM 257, 258, 257, 258, 262	"		RH
0744		PM 259, 258	"		RH
0746		PM 257, 258, 61, 259, 258	"		RH
0750		PM 258	"		RH
0800		Powered down - Joseph/Gordon off.			
0830		Modified Unit 4 per accompanying sheet 175A			DEP
0900		started supplementary FL.	Bite seal #		DEP
0950		"T" up & running			DEP
0950		PM 3	Rerun		DEP
0951		PM 995, 257, 258, 262			DEP
1000		changed V_H & V_L to 6 & SET 1	constant 130g		DEP
1002		PM 257, 258, 262			DEP
1003		PM 257, 258			DEP

HME 7173 REV. 2/75 SIGNED: J L Perry DATE 7/14/76

REF. 80.00.08.07

Broke seal on Unit 4 at 0835 on 7/14/26 & modified 4N1A1 Equipment plate

4N1A1 Block Diagram



The above equipment was modified as shown in red.

Power measurements versus frequency were taken at 4N1A1 J3 for both original and modified configuration

Freq.	Original	Modified
1	11.69 dBm	12.24 dBm
2	12.51 "	13.32 "
3	13.28 "	14.10 "
4	12.91 "	14.30 "
5	14.36 "	14.04 "
6	14.90 "	14.60 "
7	14.60 "	15.20 "
8	13.97 "	14.80 "
9	14.54 "	14.30 "
10	13.77 "	13.70 "

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL PEM 0 PAGE NO. 176

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1004		PM 257, 258, 262 PM 995, 257, 258, 262			DLP
1007		PM 257, 258			DLP
1014		PM 257, 258, 262			DLP
1014		PM 258, 262			DLP
1015		PM 258			DLP
1015		Collected D1 & D6 data SOP6			DLP
1018		PM 258, 262			JCA
1021		PM 257, 258, 262			JCA
1030		PM 258, 262			JCA
		Equipment status at 0900			DLP
		Transmitter Failures 7, 17, 25, 51			
		Power Supplies off array 12, 26			
		Row Recover Failures E 3; AZ 38, 51 marginal			
1036		PM 258, 262, 265			DLP
1038		PM 258, 265			DLP
1042		PM 258, 262, 265			DLP
1048		PM 257, 258, 262, 265			DLP
1058		PM 258, 262, 265 PM 257, 258, 262, 265 PM 10			DLP
		PM 258, 262, 265, 269			
1059		PM 258, 262, 265, 269 PM 257, 258, 262, 269			DLP
1101		PM 258, 262, 269			DLP
1105		PM 257, 258, 262, 269 PM 258, 262, 269			DLP
1108		PM 111, 258, 262, 269	Rerun		DLP
1110		PM 258, 262 Took D4 Data			DLP
1112		PM 995, 258, 262			DLP
1116		PM 258			DLP
1124		Pause to put on Power Supplies			DLP

HME 7173 REV 2/75 SIGNED: D L Perry DATE 7/14/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 177

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1141		BACK ON AIR - INSTALL P.S. 4	ON Row 26 360 W R		LEB
1143		PM 103 230 262 258 262			LEB
1145		PM 258, 262 Noticed jamming like ~~Signal~~			LEB
1145		RUN D6 PROGRAM, BOTH	ROWS ARE OK		LEB
1150		PM 257, 258			LEB
1153		PM 258, 262			LEB
1204		PM 258, 262, 265			LEB
1215		PM 258, 262			LEB
1223		PM 258			LEB
1227		PM 258, 269 GOUT. REA INDICATED F.A. RATE ABNORMALLY			LEB
1235		PM 258, 262, 269 LOW — 1215 to			LEB
1239		PM 257, 258, 262, 269			LEB
1242		PM 258, 262, 269			LEB
1245		PM 258, 262			LEB
1247		PM 258, 262, 269			LEB
1248		GO TO FFIB, TAKA			LEB
1249		PM 258, 269			LEB
1253		PM 258, 262, 269			LEB
1256		PM 258, 269			LEB
1259		PM 258, 269, 61			LEB
1302		PM 258, 269			LEB
1305		COMPLETES SOF 7, 8, 9, 10	NO APPARENT PROB		LEB
1305		PM 258, 262, 269, 258, 262			LEB
1310		PM 258			LEB
1313		PM 258, 262			LEB
1323		PM 258			
1345		PM 258, 269			
1356		PM 11			

HME 7173 REV. 2/75 SIGNED: J E Perry DATE 2/14/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. ABL Demo PAGE NO. 12

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1357		PM 258, PM 269			LES
1358		PM 258, 269, 270			LES
1412		PM 11			LES
1419		PM 258, 262			LES
1420		PM 995, 255			LES
1436		PM 258, 269			LES
1516		PM 11			LES
1519		PM 258, 269			LES
1520		PM 258, 269, 270			LES
1525		PM 995, 258, 262, 270			LES
1533		PM 258, 269			
1543		PM 995, 258, 269	accidentally turned Normalizer off on Postrun		DEP
1547		PM 258			DEP
1600		Took D1 & D6 data			DEP
1601		PM 258, 269			DEP
1604		Disabled all freq. except f2	setting jamming like signal		DEP
1606		PM 995			DEP
1610		PM 10	Rerun		DEP
1610		PM 995, 111			DEP
1612		PM 995, 111 Obtained D6			DEP
1614		Disabled all freq. except f4			DEP
1615		PM 183	Rerun		DEP
1617		PM 183	Rerun		DEP
1620		Pause.			DEP
1623		Running again			DEP
1625		Turned on f2 through f7	again.		DEP
		Now no jamming signal but	many false alarms		

SIGNED: JE Perry DATE 7/14/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&L Demo PAGE NO. 179

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1640		Disabled all frequencies except f7			DLP
1642		PM 258 PM10	Rerun		DLP
1648		PM 258			DLP
1650		Enabled f2 through f7			DLP
1652		PM 595, 258			LE3
1654		PM 258, 61			DLP
1657		PM 258			DLP
1657		Changed to f7 alone & SET 1 constant to 55			DLP
		False alarm rate appears proper & no			
		obvious Exciter problem			
1703		PM 258			DLP
1704		Changed to f4 through f7			DLP
1717		PM 117, 258			DLP
1718		Loaded FL Program since we are			DLP
		getting two many false	alarms with		DLP
		f4 through f7 enabled.	Approx. 9 per scan		
1730		Loaded E-5 Program to look for Exciter			
		problem. See p 180* for	data		
1855		TYP & LOADED NEW L.O. AMP IN - SEE		180	DLP
1855		PM 257, 258, 262 FOR	DATA		DLP
1856		PM 258, 262			DLP
1858		PM 257, 258, 262			DLP
1902		PM 258, 262			DLP
1908		PM 257, 258, 262			LE3
1910		PM 258, 262			LE3
1912		PM 257, 258, 262			LE3

SIGNED: L E Bell DATE 7-14-76

HME 7173 REV. 2/75 REF. 80.00.00-07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL. DEMO. PAGE NO. 180

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		Data on new Unit 4 L.O. Amplifier 4N1A2A1			
		4 N1A2 J2 Output			
	Frequency	Old Amplifier	New Amplifier		
	1	+25.89 dBm	+27.96 dBm		
	2	20.98 "	28.34 "		
	3	19.60 "	28.57 "		
	4	24.37 "	28.50 "		
	5	18.17 "	28.01 "		
	6	24.14 "	27.79 "		
	7	26.70 "	27.93 "		
	8	26.58 "	27.78 "		
	9	26.97 "	27.67 "		
	10	27.27 "	27.81 "		
		Old 725016A0265 Amplifier has no serial number			
		New Amplifier identification:			
		03538 77D6673			
		0001A 7413 7628			

SIGNED: J L Perry DATE 7/14/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL Demo PAGE NO. 181

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1913		PM 258, 262			LES
1918		PM 258			LES
1921		PM 258, 262			LES
1925		PARITY ERROR IFF — PERRY BLASTER IT			LES
1926		PM 258 262			LES
1927		PM 258			LES
1930		PM 256, 57			LES
1932		PM 258			LES
1938		We appear to have very little IFF,			LES
		TPX-28 output seems Okay.			LES
1942		PM 256, 262			LES
1943		PM 258			LES
1946		PM 257, 258			
1947		Roger LaVine would like to see the			JSP
		TPX-28 or ~~IFF~~ other IFF equipment working			
1947		PM 258			
2011		IFF PARITY ERRORS			LH
2015		PM 10	Rerun		RAJ
2022		PM 258	NA		RAJ
2045		No video on PPI A -			RAJ
2104		PM 258, 61	"		LH
2106		PM 258	"		RAJ
2111		PM 257, 258	"		RAJ
2113		PM 258	"		LH
2115		Video back ON PPI A —	had IFF/RADAR switch		
2124		Completed SOP 8 & 10	set to IFF - oops!		RAJ
2125		PM 257, 258	NA		RAJ
2128		PM 258	"		LH

SIGNED: Ronald A Joseph DATE 7/14/76

HME 7173 REV. 2/75 REF. 80.00.08

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 182

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2135		Completed SOP-9 - SET-1 doesn't seem			
		to be doing anything - DS lists before &			
		after don't indicate any significant changes			
		in the no. of targets			RJH
2144		PM 61	NA		LM
2149		PM 257, 258	"		LM
2152		PM 258	"		RAJ
2154		PM 257, 258	"		LM
2157		PM 258	"		RJH
2346		PM 995, 258			LM
2353		PM 258, 61	"		RJH
2356		PM 258	"		LM
0000		PM 995, 258 (T-Storms @ 160 & 120 nmi.)			RJH
0020		PM 61, 258			LM
0022		PM 258			LM
0028		PM 257, 258	NA		RJH
0030		PM 258	"		RJH
0115		PM 995, 258 (Normalizer 2 on Post view PPI)	NA		RJH
0131		PM 257, 258	"		LM
0133		PM 258	"		RJH
0153		PM 257, 258	"		RJH
0154		PM 258	"		RJH
0157		PM 257, 258	"		RJH
0158		PM 258	"		RJH
0201		PM 257, 258	"		RJH
0206		PM 258	"		LM
0205		PM 257, 258	"		LM
0206		PM 257			LM

SIGNED: Leo W. Goodman DATE 7/15/76

HME 7173 REV. 2/75 REF 30.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 183

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0204		PM 257, 258	NA		LG
0211		PM 258	"		LG
0215		257, 258, 258	"		LG
0219		PM 257, 258 — 258	"		LG
0223		PM 257, 258 — 258	"		RA
0227		PM 257, 258, 258	"		LG
0231		PM 258, 262, 258	"		LG
0238		PM 257, 258 — 258	"		RA
0249		PM 257, 258 — 258	"		RA
0253		257, 258 — 258	"		LG
0301		257, 258 — 258	"		RA
0313		257, 258 — 258	"		LG
0316		257, 258 — 258	"		LG
0319		257, 258 — 257, 258, 262	"		RA
0322		258, 262 — 258	"		RA
0335		257, 258 — 258	"		LG
0340		257, 258 — 258	"		LG
0347		257, 258 — 258	"		LG
0350		257, 258 — 258	"		LG
0405		258, 262 — 257, 258, 262	"		LG
0406		258, 262	"		LG
0411		257, 258, 262, — 258, 262	"		LG
0414		257, 258, 262 — 258 262	"		LG
0418		257, 258, 262 — 258 262	"		LG
0422		257, 258 262 — 258, 262	"		LG
0426		257, 258, 262 — 258, 262	"		LG
0429		257, 258, 262 — 258, 262	"		RA
0433		257, 258, 262 — 258, 262 — 258, 262, 6	"		RA

SIGNED: Leo M Yordona DATE 7/15/76

HME 7173 REV. 2/75

REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 184

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0436		256, 262 - 257, 258, 262	NA		RH
0437		258, 262	"		RH
0442		257, 258, 262 - 258, 262	"		RH
0445		257, 258, 262 - 258, 262	"		RH
0519		257, 258, 262 - 258, 262	"		RH
0524		257, 258, 262 - 258, 262	"		RH
0528		257, 258, 262 - 258, 262	"		RH
0531		" "	"		RH
0534		258 - 257, 258	"		RH
0535		257, 258, 262	"		RH
0537		258, 262 — 258 - 257, 258	"		RH
0539		257, 258, 262 - 258, 262	"		RH
0540		258	"		RH
0542		257, 258, 258, 258, 262	"		RH
0551		257, 258, 262 — 258, 262	"		RH
0553		257, 258, 262 — 258, 262	"		RH
0559		258, 258, 262 - 258, 262	"		RH
0602		" " "	"		RH
0631		" " 258	"		RH
0632		257, 258 257, 258, 262	"		RH
0636		258, 262 " "	"		RH
0638		258, 262 - 258, 262, 292	Rerun		RH
0639		257, 258, 262	NA		RH
0642		258, 262, - 257, 258, 262 - 257, 258, 262, 292	Rerun		RH
0644		257, 258, 262, 258, 262	NA		RH
0649		257, 258, 262, 257, 258, 262, 292, 258, 262, 292			
		258, 262			RH
0650		PM 109, 258, 262	Rerun		RH

SIGNED: R W Gardner DATE 7/15/76

HME 7173 REV 2/75 REF. 80.00.08.07 P-190

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 185

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0652		257, 258, 262, 258, 262	NA		
0656		"	"		
0659		258, 257, 258, 257, 258, 262	"		
0703		258, 262, 258, 258, 257, 258, 262	"		
0707		258, 262, - 258 - 257, 258	"		
0709		258 - 258, 262	"		
0712		257, 258, 262 - 258, 262	"		
0717		258, 262, 257, 258, 262	"		
0736		257, 258, 258, - 258, 262	"		
0734		257, 258, 262	"		
0750		257, 258 - 258 - 257, 258	"		
0753		258	"		
0755		257, 258, 257, 258, 262	"		
0758		257, 258 HOLD DG listing	"		
0800		Power off - 105 Power Hour for Events			
0803		Fox / Boris on Joseph / Kronecker off			MF
0903		Power-on Gen. #4, #5			MF
		Completed FL Engineering / FL Location @ 0948			
0934		Tactical loaded system operating			MF
0954		PM 3.	Rerun		MF
0956		PM 258	N.A.		
0957		PM 61			MF
1004		PM 258	N.A.		
1005		AS PER SOP 7 OPERATING WITH PPIA (PREVIEW) AND TACB (PPIB-POSTVIEW)			
1005		FL FLAGS, 122, 124, 120, 160, 157, 151, 152, 153, 154			
1015		COMPLETED SOP 8 NOTED INCREASE IN FALSE ALARMS ON PREVIEW RELATIVE TO POSTVIEW			

SIGNED: M Fox DATE 2/15/76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Ref Memo PAGE NO. 186

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1035		COMPLETED SOP 9, NOTED INCREASE IN FALSE ALARMS			
		AND MULTIPLE DECLARED TARGETS ON BOTH PRI & PHZ			
1030		COMPLETED SOP 6 DATA DC, DV, DS, DL			
1040		COMPLETED SOP 10 (MTI TEST) NOTED INCREASE			
		IN CLUTTER PARTICULARLY IN 0 40 NMI GATE			
1055		COMPLETED SOP 11 - CLUTTER SENSORS INOPERATIVE			
		NOTE: FL STATUS @ C948			
		Tx 2, 17, 25, 51 low			
		Rx Σ 3, 41 low			
		Rx Δ 08 low			
		FL MSG 155			
1105		PM 61			
1110		PM 258	N.A.		
1115		PARITY REJECTS ON TPQ INPUT DATA	N.A.		
1125		PM 258	N.A.		
1132		PM 10	Rerun		
1132		Missed Pinks out of AN/TPX-28	Ck Y units		
1135		PM 258	N.A.		
1150		PM 9, PM 10	Rerun		
1154		PM 258	N.A.		
1155		PM 10	Rerun		
1156		PM 10	Rerun		
1203		PM 258	N.A.		
1205		PM 9, 10	Rerun		
1220		PM 10 Par 258			
1271		Par 61			
1230		Par 258, PM 61			
1234		Par 10	Rerun		

SIGNED: [signature] DATE 7/15/76

HME 7173 REV. 2/75 REF. 80.00.00.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 187

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1245		PM 10	Rerun		MF
1250		PM 258			MF
1255		PM 111	Rerun		MF
1257		PM 9, 10	Rerun		MF
1259		PM 9, 10	"		MF
1305		PM 10			MF
1307		ENABLED TADIL			HB
1308		PM 86, PM 96			MF
1317		PM 9, PM 10	Rerun		MF
1320		PM 61			MF
1325		PM 258			MF
1328		PM 10	Rerun		MF
1337		PM 10	Rerun		MF
1345		Enabled freq 1			HB
1350		PM 10			HB
1352		PM 10	R.R.		JAK
1353		PM 258	N.M.		JAK
1355		PM 10	R.R.		JAK
1356		PM 10	R.R.		JAK
1405		PM 9, PM 10	"		MF
1407		Disabled freq's 5, 6, & 7			HB
1413		PM 9, PM 10	Rerun		MF
1420		PM 10	"		MF
1421		PM 10	"		MF
1422		PM 9, PM 10	"		MF
1426		PM 10	"		JAK
1429		PM 10	"		JAK
1434		PM 10	"		JAK

SIGNED: H. Dennis DATE 2/15/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 188

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1435		PM10	Reflown		
1458		PM10	K.R.		
1493		PM10	K.K.		
1443		PM10	11		
1449		PM8, 61	K.K.		
1450		PM10	K.K.		
1459		PM10	K.K.		
1500		PM10	K.K.		
1506		PM10	K.K.		
1507		PM10	K.K.		
1508		PM10	K.K.		
1509		PM10	K.K.		
1510		PM10	K.K.		
1511		PM10	K.K.		
1526		PM10	K.K.		
1529		PM 85 & 86	R		
1537		PM 9, 10	R		
1538		PM10	R		
1539		PM10	R		
1541		PM10	R		
1542		PM 10	R		
1544		PM 9 10	R		
1545		PM10	R		
1552		PM9, 10	R		
1555		PM10	R		
1556		11	12		
1557		PM 10	No Reset		
1601		PM 10, PM 9			

HME 7173 REV. 2/75

SIGNED: [signature] REF: 80.00.08.07 DATE 7/15/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Pull. Klimo PAGE NO. 189

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1605		PM 10	Rerun		JAK
1616		PM 10	R		JAK
1607		PM 10	R		JAK
1608		PM 10	R		JAK
1609		PM 10	R		JAK
1610		PM 10	R		JAK
1611		PM 10	R		JAK
1612		PM 10	R		JAK
1613		PM 10	R		JAK
1618		PM 18	R		MF
1619		PM 9, 10	R		JAK
1622		PM 10	R		JAK
1627		PM 9, PM 10	R		MF
1628		PM 10	R		MF
1629		PM 10	R		MF
1630		PM 6C			MF
1634		PM 10	R		JAK
1635		PM 9, 10	R		JAK
1636		PM 10	R		JAK
1553		NOTE: Reloaded "T" to get New Φ CAL			
		TGT Count went from 250 to 350, DETECTABILITY			
		IN 80-100 mi REGION SIGNIFICANTLY IMPROVED			JAK
1638		PM 10, 9, 10	R		JAK
1640		PM 10	NO R		JAK
1642		PM 9, 10	"		HG
1644		PM 10	"		HG
1645		PM 9, 10	"		HG
1648		PM 10	R		JAK

SIGNED: H. A. Burris DATE 7/15/76

HME 7173 REV. 2/75 REF 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. _____ PAGE NO. 190

SER. NO. XN-1 STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1650		PM 9, 10	Rerun		JAK
1651		PM 2,5,8	N.A.		JAK
1653		PM 10	R		JAK
1654		PM 10	R		JAK
1655		PM 10	R		JAK
1656		PM 10	R		JAK
1657		PM 10	R		JAK
1658		PM 10	R		JAK
1658		PM 10	R		JAK
1659		PM 10	R		JAK
1700		PM 9, 10	R		JAK
1701		PM 9, 10	R		JAK
1702		PM 10	R		JAK
1703		PM 10	R		JAK
1704		PM 10	R		JAK
1705		PM 9, 10	R		JAK
1707		PM 9, 10	R		JAK
1708		PM 10	R		JAK
1709		PM 10	R		JAK
1710		PM 10	R		JAK
1711		PM 2,5,8	N.A.		JAK
1713		PM 9, 10	R		JAK
1714		PM 10	R		JAK
1714		PM 10	R		JAK
1715		PM 10	R		JAK
1716		PM 10	R		JAK
1717		PM 10	R		JAK
1718		PM 10	R		JAK

SIGNED: M Fox DATE 2/15/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Tel. Demo. PAGE NO. 191

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1719		PM 10	Return		
1720		PM 10	R		
1721		PM 10	R		
1722		PM 10	R		
1723		PM 10	R		
1724		PM 10	R		
1725		PM 10	R		
1726		PM 10	R		
1727		PM 10	R		
1728		PM 10	R		
1729		PM 10	R		
1729	↑	DIESELS Dropped out - At time Cooling A/C # w/CO2 Had overload SHORT circuit light Count on STE 407 39	Diesel #5		MF
1735		TURNED AC SHELTER 2 ON & FANS UNIT 7			MF
1738		AC'S SHELTER 2 CKT BKR TRIPPED GEN 5 OL. SHORT CKT AGAIN			
1755	26 MIN OUT OF	DIESEL Power on - Shelter power on Noted Unit 4 Coil extremely hot from one end & the other Temperature > 60°C too hot to touch. Reread paper after @ least 10 minutes still read better than 55°C.			MP
1808		Tactical loaded - System operating			MF
1808		PM 3	R RUN		MF
1813		PM 61	N.A.		LB
1819		PM 258	"		JK

SIGNED: M. Fox DATE 7/15/76

HME 7173 REV. 2/75 REF. 80 00 08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Rel. Demd. PAGE NO. 192

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1826		PM61	N.A.		
1828		PM258	"		
1833		PAUSE TO CHECK UNIT 4 TEMPERATURE			
1835		RESTARTED "T"			
1835		PM258	"		
1845		PM10	Rerun		
1846		PM258	N.A.		
1847		PM9	R.R.		
1848		PM258	N.A.		
1849		PM9,10	R.R.		
1854		PM10	R.R.		
1856		PM9,10	R.R.		
1859		PM9,10	R.R.		
1902		PM61	N.A.		
1912		PM258	N.A		
1914		PM10	R.R.		
1925		PM8	R.R.		
1927		PM10	R.R.		
1928		PM10	R.R.		
1931		PM258	N.A.		
1932		PM10	R.R.		
1933		PM258	N.A.		
1934		PM10	R.R.		
1939		PM9,10	R.R.		
1943		PM11	R.R.		
1944		PM10	R.R.		
1945		PM10	R.R.		
1946		PM10	R.R.		

SIGNED: J. J. Berry DATE 7/15/76

HME 7173 REV. 2/75 REF. 80.00.08

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 193

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1947		PM258, 61	N.A.		JAK
1947		PM61	N.A.		JAK
1948		PM9, 10	R.R.		JAK
1950		PM258	N.A.		JAK
1951		PM10	R.L.		JAK
1952		PM10	R.L.		JAK
1954		PM10	R.R.		JAK
1955		PM258	N.A.		JAK
1959		PM9, 10	R.R.		JAK
2002		~~Fox/Bursts off Perry/Busty on~~ VOID			
2003		PM258			JAK
2005		PM10	R.R.		JAK
2007		PM10	R.R.		JAK
2009		PM10	N.A.		JAK
2012		PM258	N.A.		JAK
2013		PM61	N.A.		JAK
2030		PM9, PM10	R.R.		JAK
2043		PM10 PM258 PM10	Return		JSP
2044		PM258			JSP
2111		COMPLETED SOP 8, noted clutter false alarms with	increased in Normalizer off		JSP
2114		COMPLETED SOP 9, noted in DTM's on PPI & RHI	small increase with SET 1 off		JSP
2116		COMPLETED SOP 10, noted in 0-40 nmi with MTI	increased clutter off		JSP
2116		PM 23	Return		JSP
2117		PM 258			JSP
2118		COMPLETED SOP 6			JSP

HME 7173 REV. 2-75 SIGNED: J L Perry REF. 80.00.08.07 DATE 7/15/76

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC REL DEMO PAGE NO. 194

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2138		MYSTERIOUS CAL 3 FAILURE, COMPUTER HDWR FAULT LIGHT ON -			LEB
2142		RELOADED T- UP & RUNNING			LEB
2142		PM 258			LEB
2156		Completed taking Daily Log sheet #2			DJP
2210		Computer Hardware Fault Light on			DJP
2219		Reloaded T Up & Running			DJP
2220		PM 258			DJP
2222		PM 10	Perm		CRL
2223		PM 258, PM 262			CRL
2224		PM 262			DJP
2228		PM 258			DJP
2305		PAUSE -			DJP
2342		"T" up & Running in 12 RPM Mode			DJP
2342		PM 258			DJP
2346		Turned threshold on PPI A to -8dB and detected nothing beyond 200 nmi., 12RPM Mode appears normal			DJP
2347		changed W_U & W_L to +6 & enabled Weather Mode			DJP
2350		PM 258			
		INSPECTED GEAR FACE AT ACCESS HOLE, LOOKED OK ALTHOUGH SHARP AT BOTTOM EDGE, GREASE AROUND PINION DID NOT FEEL GRITTY. CHECKED TWO END BOLTS OF GEAR BOX HOUSING - THEY WERE BOTH TIGHT			LEB

SYSTEM DOWN TIME

SIGNED: L. E. Beck DATE 7-15-76

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. R&L Demo PAGE NO. 195

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2353		PM 258, 262			LE3
2355		PM 257, 258, 262, 257, 258			LE3
2358		With Weather Program enabled, the target			DSP
		disappeared & a ring of False alarms			
		at 55 nmi appeared. Disabled Weather Program			
2358		PM 258			DSP
0002		PM 257, 258, 262 PM 258, 262	PM 262		DSP
0003		PM 258, 262			DSP
0004		Changed W_U to -3 & W_L to -6 & enabled			DSP
		Weather Program & the PPI appeared normal			
0006		PM 257, 258, 262			DSP
0007		Disabled Weather Program			DSP
0007		PM 258, 262			DSP
0010		PM 258			DSP
0012		PM 257, 258			DSP
0013		PM 258, 10	R		LE3
0014		PM 257, 258			LE3
0015		PM 258			LE3
0024		PM 257, 258			DSP
0026		PM 258			DSP
0033		PM 257, 258			DSP
0034		PM 258			DSP
0048		PM 258, 61			DSP
0050		PM 258			DSP
0110		PM 257, 258			DSP
0112		PM 258			DSP
0115		PM 257, 258			DSP
0118		PM 258			DSP

HME 7173 REV 2/75 SIGNED: J L Perry DATE 7/16/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. REL DEMO PAGE NO. 196

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0236		PM 257, 258			DSP
0237		PM 258			DSP
0332		PM 257, 258			DSP
0334		PM 258			DSP
0435		PM 9, 10	Rerun		DSP
0435		PM 258			DSP
0444		PM 258, 61			DSP
0446		PM 258			DSP
0503		PM 995, 258 Inadvertently turned MTI &	Warnings off on Raytheon PPI		DSP
0600		Changed to 6 RPM Mode			DSP
0609		Collected D1 & D6 data			DSP
0611		PM 257, 258			DSP
0612		PM 258			DSP
0614		PM 9, 10	Rerun		DSP
0615		PM 257, 258, 262			DSP
0617		PM 258, PM 262			[illegible]
0619		PM 257, 258, 262			[illegible]
0622		PM 257, 258			[illegible]
0626		PM 258			[illegible]
0639		PM 257, 258, 257, 258, 262			[illegible]
0640		PM 258, 262, 258			[illegible]
0647		PM 257, 258			[illegible]
0653		PM 258			[illegible]
0655		PM 257, 258			[illegible]
0656		PM 258			[illegible]
0657		PM 257, 258			[illegible]
0700		PM 258			[illegible]

SIGNED: D. L. Curry DATE 7/16 '75

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 197

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
[redacted]	0700	Went into 12RPM Mode			DJP
0700		PM 257, 258			DJP
0703		PM 257, 258, 262			[illegible]
0705		PM 257, 258, 262, 61			[illegible]
0706		PM 257, 258, 61, 257, 258			[illegible]
0719		PM 257, 258, [redacted] 258			[illegible]
0726		PM 257, 258, 262			[illegible]
0727		PM 258, 262, 258			[illegible]
0727		Changed W_{11} & W_{12} to 6 to investigate problem noted earlier			DJP
0729		Collected DS data. Still appears that two many false alarms show up at ≈ 55 nmi. When Weather Program is actuated & W_{11} & W_{12} are set to 6			DJP
0732		PM 258, 61			[illegible]
0734		PM 258			[illegible]
0739		PM 258, 262			[illegible]
0744		[redacted] PM 257, 258, 262			[illegible]
0756		PM 258, 262			[illegible]
0800		Lenty / Berty / Perry off Fox/Bucc's/CHESHIRE ON			DJP
0845		Power ON			[illegible]
0920		FL SUPP & FL Run FL155 - Took List 5 ON FL DUMP.			[illegible]
0921		"T" loaded & OPERATING			[illegible]
0922		PM 3	R		[illegible]
0923		PM 258, 262			[illegible]
0924		PM 253			[illegible]
0931		Power to go to 12 RPM.			[illegible]

SIGNED: [illegible] DATE 7/16/76

HME 7173 REV 2-75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel Demo PAGE NO. 198

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0934		System operating @ 12 RPM			MF
0935		PM 258			DOC
0936		SOP 6 DATA TAKEN			
0940		FL / FL Suppression Data Summary			MF
		Tx 2, 17, 25, 51 low			
		Rx 2, 3, 41 low 38 Marginal			
		" ΔA_z 38 Marginal			
		Mono cal Az Sign			
		FC 155			
0941		D6 @ fc indicates following rows low			MF
		(2)(17)(25), 30, 38, 39, 41, (51)			
0942		SOP 7 - OK			DOC
0948		SOP 8 - OK SOP 10 - OK			DOC
0953		SOP 9 - OK			DOC
1010		SOP 11 & 12 - OK EXCEPT FOR	CLUTTER SENSOR		
		GATE #3 INOPERATIVE			DOC
1029		PM 10	R		DOC
1030		PM 258, 262			DOC
1031		PM 262			DOC
1032		PM 258			DOC
1053		PM 10, 258			DOC
1126		PM 10	R		DOC
1127		PM 258, 262			DOC
1128		PM 258			DOC
1134		WU, WL changed to 6, 6			DOC
1135		PM 258			DOC
1157		PM 258			DOC
1203		PM 4 CKT BREAKER TRIPPED UNIT 7			MF

SIGNED: M. J. Fox DATE 2/16/82

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/FPS-59 TEST SPEC. Rel. Demo PAGE NO. 1998

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1210		SYSTEM BACK UP IN 6RPM			
1214		PM 258			
1219		PM 258			
1218		IN 12RPM			
1239		PM 10	R		
1243		PM 10	R		
1251		PM 258			
1344		CONNECTED UPM 137 TO LOCAL TO SIMULATE TPX 28 TARGETS			
1345		DOWN For Weather Mode DUMP			
1353		SYSTEM BACK UP			
1354		PM 258, 262			
1355		PM 258			
1418		PM 995, 258 - Normalizer OFF on Post View PPI			
1500		PARITY ERRORS ON IFF INPUT DATA			
1501		PM 258, 262			
1502		PM 258			
1507		"PAUSE"			
1508		SYSTEM BACK UP 6RPM			
1509		PM 258, 262			
1510		PM 258			
1508		FELT OF AZ DRIVE GEAR BOX	(≈100°F)		
1615		PER DCASO REQUEST RE TAKING D5 TO WITNESS After ~~RETASKING~~ (Phase TGT COUNT PRE 413 TGT " POST 403	boot after any change Cal.) No Significant Change		MF
1617		SYSTEM OPERATING			MF

SIGNED: Mont Fox DATE 7/16/76

HME 7173 REV. 2/75 REF. 80 00 08 07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 200

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1618		PM10			
1619		PM258			
1620		PAUSE TO PUT ANT IN REMOTE			
1621		RUN			
1622		PM258			
1624		12 RPM mode			
1630		PM 10			
1635		PM 258			
1640		PM 10			
1659		PM 258			
1709		ACU & S/SPDC NOT IN SYNC, PM258			
1727		Parity Error on IFF data			
1728		PM 10	Resume		
1732		PM 10	"		
1734		PM 258			
1736		PM 10	Resume		
1731		PM 10	"		
1731		PM 10	R		
1732		PM 258			
1737		PM 10	R		
1737		Parity Errors on IFF data Input			
1738		PM 258			
1740		PM 10	R		
1741		PM 10	R		
1742		PM 258			
1749		PM 10	R		
1750		PM 258	~~R~~ DOC		
1751		PM 10	R		

SIGNED: MFC DATE 7/16/86

HME 7173 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 201

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1752		PM 258			
1753		PM 9, 10	R		
1754		PM 10	R		
1755		PM 10	R		
1755		PM 9, 10	R		
1756		PM 9, 10	R		
1756		PM 10	R		
1757		PM 258			
1803		PM 10	R		
1804		PM 10	R		
1805		PM 10	R		
1805		PM 10	R		
1806		PM 258	NA		
1810		PM 9, 10	R		
1811		PM 258			
1812		PM 10	R		
1813		PM 10	R		
1814		PM 9, 10			
1815		PM 258			
1818		PM 10			
1819		PM 258			
1821		PM 9, 10			
1830		PM 9, 10			
1835		PM 10, 6, 258, 10	R		
1836		PM 9, 10	R		
1837		PM 9, 10, 10	R		
1838		PM 258			
1840		PM 10	R		

HME 7173 REV 2/75

SIGNED: J. L. Perry DATE 7/16/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

.. TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo PAGE NO. 202

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
1840		PM10	R		
1841		PM10	R		
1842		PM258			
1845		PM252, 10	R		
1846		PM10	R		
1847		PM10	R		
1848		PM9, 10, 10	R		
1849		PM258			
1852		PM10	R		
1853		PM10	R		
1854		PM8, 258	R		
1855		PM10, 10	R		
1856		PM10	R		
1857-1915		PM10, 9, 258's	R's		
1916		PM10	R		
1917		PM258	R		
1922		PM10	R		
1923		PM10, 10	R		
1924		PM10	R		
1925		PM10			
1926		PM9, 10			
1927		PAUSE THEN AN/UYK-7 PWR OFF TO COOL			
1959		INVESTIGATE PM10 SYSTEM BACK ON A.R 6RPM			
1961		PM 258, 262	N.A.		
2001		PM258	N.A.		
2027		collected SOP6 DATA D2, D4, D5, D6			
2030		AS PER SOP 7 OPERATING WITH PPE AS REQ. ON			
		AND APE AS RESTRICTED			

SIGNED: J. F. Perry DATE 7/17/76

HME 7123 REV. 2/75 REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Ref. Dwg PAGE NO. 203

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
2036		COMPLETED SCP 8, NOTED INCREASE IN			
		FALSE ALARMS ON PREVIEW SCOPE RELATIVE			
		TO POSITION			JAK
2037		12RPM MODE			
2046		COMPLETED SCP 9, NOTED INCREASE IN			
		FALSE ALARMS AND MULTIPLE DELAYED TARGETS			
		ON BOTH PPI'S AND RHI			JAK
2052		COMPLETED SCP 10, NOTED INCREASE IN			
		FALSE ALARMS AND CLUTTER, PARTICULARLY			
		CLUTTER IN 0-40 mi. RANGE			JAK
2137		PM258, 61	N.A.		JAK
2142		PM258	"		JAK
2239		PM258, 61	"		JAK
2242		PM258	"		JAK
2330		PM258	"		JAK
0037		PM258, 61	"		KES
0105		PM258	"		JAK
0128		PM10	R		KES
0129		PM258	NA		KES
0134		PM258, 61			JAK
0135		PM258			JAK
0204		PM258, 61			KES
0206		PM258			JAK
0204		MXST CLASS 3			KES
0217		RELOAD T-UP'S OPERATING	PM258, 262		KES
0218		PM258			KES
0228		PM258, 61			JAK
0250		PM258			JAK

HME 7173 REV. 2/75

SIGNED: J. L. Perry DATE 7/17/76

REF. 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Perf. Demo PAGE NO. 204

SER. NO. XA-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0233		PM 258, 61	N.A.		
0235		PM 258	"		
0343		PM 257, 258			
0405		BACK TO GRAM TOTAL @ RCPM 24 HRS, 13 MIN			
0405		PM 257, 258, 262			
0408		PM 257, 258			
0415		PM 257, 258, 262			
0429		PM 9, 10	R		
0430		PM 257, 258, 262			
0431		PM 258, 262			
0432		PM 257, 258, 262			
0505		PM 257, 258			
0507		PM 257, 258, 262			
0508		PM 257, 258			
0517		PM 257, 258, 262			
0522		PM 257, 258			
0528		PM 257, 258, 262			
0530		PM 257, 258			
0538		PM 257, 258, 262			
0540		PM 258, 262			
0542		PM 258			
0547		PM 258, 262			
0552		PM 258			
0558		PM 257, 258			
0624		PM 258			
0625		PM 257, 258			
0626		PM 258			
0628		PM 257, PM 258			

SIGNED: J L Perry DATE 7/17/76

REF. 80.00.08.07

HME 7173 REV. 2/75

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK **GENERAL ELECTRIC**

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Rel. Demo. PAGE NO. 205

SER. NO. XN-1 STE. NO. TEST REQUIREMENT

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
0635		PM 257, 258, 262 - 258, 262, 258	N.A.		JAK
0635		COMPUTER HDW FAULT AT 06:28			
		RELOADED "T" BACK UP & OPERATING AT 06:35		•	JAK
0657		PM 257, 258			JAK
0640		PM 257, 258, 61			JAK
0641		PM 258, 61			JAK
0642		PM 258			JAK
0650		PM 109	R.R.		JAK
0651		PM 258, 61			JAK
0652		PM 61			JAK
0652		PM 258			JAK
0655		PM 258, 262			JAK
0659		PM 258			JAK
0704		PM 258, 262			DRP
0710		PM 257, 258, 257, 258, 262			DRP
0712		PM 258, 262 PM 258			DRP
0718		PM 109	Reran		DRP
0723		PM 258			DRP
0729		PM 61			DRP
0737		PM 258			DRP
0744		PM 257, 258, 262, 86, 96 (TAOC on)	R.R.		JAK
0744		PM 257, 258	N.A		JAK
0744		PM 258	"		JAK
0805		Stopped "T"			DRP

SIGNED: D. A. Bonnie DATE 2/17/76

HME 7173 REV. 2/75 REF 80.00.08.07

HEAVY MILITARY ELECTRONIC DEPARTMENT • SYRACUSE, NEW YORK GENERAL ELECTRIC

TEST LOG SHEET

EQUIP. AN/TPS-59 TEST SPEC. Post Reliability Test Data PAGE NO. 206

SER. NO. _____ STE. NO. _____ TEST REQUIREMENT _____

DATE 2400 HR. TIME	SPEC STEP	LOG (TESTS PERFORMED, FAILURES, ETC.)	CORRECTIVE ACTION AND DATE	PCAR 7057 6626	INIT.
		equipment status			
		Transmitter Failures 7, 17, 25, 51			HD
		Row Power Supply Failures 26			
		Row Receiver Failures			
		Σ 3, 41			
		ΔAZ			
		FL Flags			
		122, 124, 170, 160, 157, 151, 152, 153, 154, 168			HD
		AP 26			
		Monopulse Values			HD
		AZ 1.235			
		EL 0.967			
		PERFORMED MODULE CHECK SEE DATA SHEET ATTACHED.			HD
1225		RELIABILITY TEST COMPLETED			HD

SIGNED: H. A. Barnes DATE 2/17/76

HME 7173 REV. 2/75 REF. 80.00.08.07

APPENDIX Q

MAINTAINABILITY DEMONSTRATION TEST METHOD

PART A - FL Program

1.0 PURPOSE

The purpose of this test was to demonstrate that the off-line Fault Detection and Location (FD&L) software developed during this phase for representative subsets of major radar functions (excluding the array) is a valid system. This test is compliant with the contract as modified (P00028 dated March 4, 1976).

2.0 SCOPE

The test will demonstrate that the FD&L system as designed will locate a fault to a group of boards. Demonstration of the FD&L capability will be accomplished by simulating a fault in the system by several means:

1) Grounding of a Printed Wiring Board (PWB) pin
2) Removing a PWB
3) Changing a computer command
4) Providing additional attenuation
5) Shutting down a power supply

3.0 APPROACH

3.1 Part A

A twenty-five (25) percent sample of all fault areas in the major radar functions has been selected to demonstrate the FD&L system.

Table I shows the fault condition to be inserted, its location, the test this simulated failure checks, and the fault message obtained from the I/O 1538 TELEPRINTER.

4.0 TEST PROCEDURE

The Maintainability Demonstration was performed as outlined below.

a. The fault location tape was initially run to verify the absence of any faults.

b. The indicated fault condition was inserted into the system as indicated by Table I.

c. The indicated fault message was recorded from the I/O 1538 into the log sheet provided for the test.

d. From the fault Area Tabulation Book (Fault Area Look0Up Table) the fault area with its respective PWB was located from the fault message.

e. The fault was then removed and the fault location program run to verify on all clear condition.

f. The next fault was inserted into the equipment until all 60 tests were completed.

g. In the event a non-satisfactory result was obtained from the test, the simulated fault was removed, the fault location tape reset, operated, and evidenced of a secondary failure in the system determined. If the fault location test did not reveal a secondary failure, the original simulated fault was inserted, and the fault location test was rerun. If the second test provides invalid results, that particular test was terminated and the test sequence continued to the next test.

5.0 PASS/FAIL CRITERIA

There is no pass/fail criteria as such, however, in the event, one of the tests proves invalid, a second sample was chosen from the respective major radar function.

6.0 DOCUMENTATION

All activities of this test were documented in the following manner. The daily log sheet T.O.-260A was used to record test activities and any unusual conditions. Test Data Sheets were used to record the test data.

Table I

Major Radar Function	Test No.	Fault		Test Checks	FL Msg.
		Location	Condition		
S/SPDC	1	7.6.1X107	Gnd Pin 23	Loop Test Replies Missing	FL 110 SI
	2	7.5.1X222	" " 27	Interrupt Words Missing	FL 112 SI
	3	7.5.2X310	" " 33	End PRP Msg. Missing (from SR Counter)	FL 116 SI
	4	7.6.1X205	" " 8	No End PRP Replies	FL 117 SI
	5	7.5.2X619	" " 18	Detection Missing on LR4	FL 119 SI
	6	8 PS #1	Turn Off PS	Unit PS 8 Fault	FL 340 SI
	7	7.5.1X320	Gnd Pin 18	Output Clock Fault	FL 320 SI
	8	7.5.1X117	" " 7	Reply Buffer Output Parity Error	FL 318 SI
	9	7.5.2X625	" " 48	Instruction Interpret Control Error	FL 305
	10	7.5.2X211	" " 22	Closing Counter Error	FL 309
	11	7.6.1X227	" " 26	Target Count Error	FL 330
	12	7.5.1X519	" " 36	Range Error	FL 321
	13	7.5.1X529	" " 41	Gated Status Error	FL 337
ACU	14	14.1.2X311	" " 4	Auto Data Reporting	FL 200 AI
	15	14.1.2X217	" " 15	Strobe Sync Error	FL 204 AI
	16	14.1.2X104	" " 8	ACP Missing	FL 360 AI
	17	14.1.2X317	" " 44	ACP/4 Missing	FL 357 AI
	18	14.1.2X224	" " 21	True North Bias Error	FL 358
MTI	19	7.1.1X304	" " 47	MTI Output Compare Error Σ to Set 1	FL 249
	20	7.1.2X404	" " 47	MTI Output Compare Error ΔZ to EL	FL 250
	21	7.1.1X312	" " 7	MTI Bypass Test Error Σ Channel	FL 221
	22	7.1.2X504	" " 36	MTI Bypass Test Error ΔZ Channel	FL 222
	23	7.1.1X225	" " 44	MTI Adder 4 Test Error Σ Channel	FL 233
	24	7.1.2X524	" " 44	MTI Adder 4 Test Error ΔZ Channel	FL 234
	25	7.2.1X628	" " 19	MTI Scaler Output Error Σ Channel	FL 252
FFT	26	7.3.1X105	" " 12	FFT W Multiplier Fault	FL 202
	27	7.3.1X432	" " 12	Σ Multiplier Z Fault	FL 204
	28	7.3.2X521	" " 7	Equalizer Center Tap Fault	FL 211
Input Dist. and Tgt. Det.	29	7.2.1X212	" " 42	Input Dist. Channel 4 Error	FL 264
	30	7.2.1X212	" " 44	Input Dist. Channel 8 Error	FL 268
	31	7.4.2X218	" " 7	Σ Channel 3 I to Q Error	FL 275
	32	7.4.2X111	" " 42	Magn. Proc. Channel 4 to 8 Error	FL 280
	33	7.4.2X113	" " 7	Magn. Σ Error	FL 289
	34	7.4.2X325	" " 3	Set 2/LDB Error	FL 290

Table I (Continued)

Major Radar Function	Test No.	Fault		Test Checks	FL Msg.
		Location	Condition		
PreProcessor/	35	6A9A1	Pull Bd.	ΔEL f1 Channel Fault	FL 44
Waveform Gen.	36	6A9A10	" "	ΔEL f3 Channel Fault	FL 43
	37	6A1A4	" "	ΔΔZ Channel Fault (ahead of hybrid)	FL 20
	38	6A1A5	" "	ΔEL Channel Fault (ahead of hybrid)	FL 22
	39	6A11J2	" Conn.	AZ 9-Bit ADC I Channel	FL 121
	40	6A12J2	" "	EL 9-Bit ADC I Channel	FL 124
	41	6A13X307	Gnd Pin 10	f1/f3 Mux always f1	FL 12
	42	6A13X307	" " 15	f2/f4 Mux always f2	FL 15
	43	6A13X307	" " 3	Simple Pulse Circuitry Fault	FL 16
	44	6A8A6	Pull Bd.	f1 L.O. Fault	FL 6
	45	6A7A2	" "	f3 L.O. Fault	FL 12
	46	6A2A6	" "	ΔΔZ Hybrid Fault	FL 30
	47	6A2A8	" "	ΔΔZ Channel Fault	FL 31
	48	6A2A10	" "	ΔEL Hybrid Fault	FL 32
	49	6A2A12	" "	ΔEL Channel Fault	FL 33
Final	50	Note 1	Note 1	12 dB Σ Channel	FL 416
Receiver	51	Note 1	Note 1	24 dB STC Step AZ	FL 419
	52	"	"	24 dB STC Step EL	FL 423
	53	"	"	24 dB STC Step Set 1	FL 427
	54	Note 2	Note 2	ΔΔZ Final Recvr Gain Low	FL 407
	55	Note 1	Note 1	Mono/Low Angle ΔEL Switch Failure	FL 402
	56	Note 3	Note 3	Σ Rcvr Fault	FL 403
	57	Note 4	Note 4	ΔEL Rcvr Fault	FL 405
	58	Note 5	Note 5	ΔΔZ Rcvr Fault	FL 407
	59	Note 6	Note 6	Set 1 Rcvr Fault	FL 430
Exciter	60	4N1A1J1	Pull Connector	Low Freq. Band Fault	FL 562

Note 1: Take STC sample at different time (obtaining different STC state) to simulate fault condition.
Note 2: Insert 10 dB attenuation in Preprocessor ΔA2 input.
Note 3: Pull Σ input to Preprocessor.
Note 4: Pull ΔEL input to Preprocessor.
Note 5: Pull AZ input to Preprocessor.
Note 6: Insert 13 dB attenuation in Set 1 input.

PART B - SUPPLEMENTAL LOOP TESTS

~~LOOP TEST~~

These loop tests supplement the FL tests that remain uncompleted.

Test 1. Phase Measurement Program

Purpose: Measure row receiver gain. (Same as used for flight test. Use columns 7 & 9.

Output: Single cell samples of row receiver through the preprocessor.

Test 2. Transmitter Output (E15)

Purpose: Measure relative row power.

Output: Integrated samples by row, through the preprocessor.

Test 3. Final Receiver Monopulse Short (D14) Range

Purpose: Check short range monopulse readings through final receiver.

Output: Monopulse estimate and individual I&Q components of signal.

Test 4. Row Phase Shifter

Purpose: Determine phase shifter bit settings.

Output: I&Q components per row per bit to be converted to phase.

Test No. 1

Phase Measurement Program

Purpose: This test checks the gain of the row receiver sum and azimuth paths.

Procedure: Load program and run. Column seven is a single cell amplitude of the sum row receiver measured through the test path. Disconnect J-18 at Processor Group shelter cable interconnect panel. Rerun program. Column nine is the amplitude of the azimuth receiver measured through the test path. Normalize amplitude data using highest value as reference. A receiver is failed if the amplitude falls below the value shown in Table A. Verify that rows with missing RRT's report failure.

Test No. 2

Transmitter Output

Purpose: This test checks the output of the row transmitters.

Procedure: Load program and run at three frequencies. Column 1 of the 1538 output is the row number and column two is an integrated sample of the transmitter output as measured through the test path. A transmitter is failed if the output for the three frequencies is near zero. Verify that all rows with missing PS's and missing RRT report a value near zero.

Test No. 3

Final Receiver Monopulse

Purpose: This test makes a monopulse measurement through the final receiver test path. It can be used to measure the amplitude and phase of the sum, elevation and azimuth paths.

Procedure: Run program D14b at frequency f2. Monopulse estimates for azimuth and elevation are printed under the mean column on the 1538 output.

Values expected are:

AZ .68 $\pm$ .20

EL .92 $\pm$ .20

Verification Procedure

Inject 6dB of attenuation at Unit 6 J60 (ΔAZ) and J61(ΔEL)inputs.

Test No. 4

Phase Shifter Test

Purpose: This program checks the phase shifter in a selected row receiver/transmitter for the correct value of phase shift. The program is a loop D-14b modified to route the test signal through the selected row. Modification of the program to route the signal and select the row and phase number is accomplished via the I/O console.

Procedure: Load D-14b program. Via the I/O console set bits 1 and 26 in the platform control indicator (Frequency 2 and STC). Turn row 25 final receiver on and all other receivers off. (All TX's off) Zero both AZ and Σ phase words. Disconnect the Σ input to the $\Sigma+j\Delta AZ$ hybrid in Unit 6. (6A2A6CP1)

Verification Procedure

Run test as described in Table B Run #1. Calculate phase shift for Σ and ΔAZ signals. Then run test as described in Table B Run #2 and calculate phase shift for Σ signal. The Σ phase difference between Runs 2 and 1 shall be 270° $\pm$ 22.5°. Next run test as described in Table B Run #3 and calculate the ΔAZ phase. The ΔAZ phase difference between Rows 3 and 1 shall be 270° $\pm$ 22.5°.

Preamp Pass/Fail Criteria (Phase Measurement Prog.)

Row	Pass/Fail
1	-18.5
2	-17.75
3	-16.75
4	-16.0
5	-15.5
6	-14.5
7	-14.0
8	-13.25
9	-12.5
10	-12.0
11	-11.25
12	-10.75
13	-10.0
14	-9.75
15	-9.25
16	-8.75
17	-8.25
18	-8.0
19	-7.75
20	-7.50
21	-7.25
22	-7.0
23	-7.0
24	-6.75
25	-6.5
26	-6.5
27	-6.5

Row	Pass/Fail
28	-6.5
29	-6.5
30	-6.5
31	-6.75
32	-6.75
33	-7.0
34	-7.25
35	-7.50
36	-8.0
37	-8.25
38	-8.75
39	-9.25
40	-9.5
41	-10.0
42	-10.75
43	-11.5
44	-12.0
45	-12.5
46	-13.25
47	-14.0
48	-14.75
49	-15.5
50	-16.0
51	-17.0
52	-18.0
53	-19.0
54	-19.5

TABLE A

Table B

	Run #1	0° Phase
PCW	40072	Set Bit 8 to Zero
Receive Σ	40124	Set all bits to zero
Receive Δ	40125	Set all bits to zero
RCW	40126	Set bit 26 also
	Run #2	-90° Phase Σ
PCW	40072	Set Bit 8 to zero
Receive Σ	40124	Set Bit 29 (-90° Σ)
Receive Δ	40125	Set all bits to zero
RCW	40126	Set Bit 26 also
	Run #3	-90° Phase Δ
PCW	40072	Set Bit 8 to zero
Receive Σ	40124	Set all bits to zero
Receive Δ	40125	Set bit 29 (-90° Δ)
RCW	40126	Set bit 26 also

APPENDIX R

FL DATA FROM TTY

FLSTOP

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 29 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FLSTOP

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 29 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FLSTOP

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 29 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL118SI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

NO FREQUENCIES DEFINED
TRY AGAIN

FL116SI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL1175I

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL1195I

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL3405I

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL3605I

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL3185I

FAULT LOCA T ON OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL305

FAULT LOCATION OPTION
DEFIN E DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL309

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL330

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL321

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 23 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL337

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 23 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL230AI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 23 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL204AI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 23 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL356AI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL357

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL357AI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL357AI

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL006

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL357

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL[illegible]

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL249

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

Wrong Pin Selected

FL220

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL250

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL221

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL222

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL233

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL234

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL252

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL200

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL204

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL211

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL264

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL268

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL275

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL280

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL289

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL290

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 44

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 43

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 22 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 20

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2, UP TO FORCE -FL- INTO DIAGNOSTICS

FL 22

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL121

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL124

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

Wrong Bit Setting

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 12

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 15

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 16

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 6

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 12

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 30

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 31

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 32

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL 33

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL416

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL400

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL419

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL000

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 120

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL423

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 120

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL000

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL427

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL002

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL407

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 103

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL402

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 103

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL402

SET JUMP SWITCH NO. 1 UP FOR POWER MODULE TEST OPTION
DOWN FOR FAULT LOCATION FUNCTION
PRESS START SWITCH AFTER MAKING SELECTION

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 24 OF CMR 102

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL200

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 22 OF CMR 120

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL403

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL403

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL407

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL430

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL572

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL572
FL573

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL572

FAULT LOCATION OPTION
DEFINE DESIRED FREQUENCIES IN BITS 1 THRU 20 OF CMR 100

SET JUMP SWITCH 3 UP TO TERMINATE AFTER 64 FL CYCLES

SET JUMP SWITCH 2 UP TO FORCE -FL- INTO DIAGNOSTICS

FL562

6/11/76

Part 3

INIT. CONDITION TEST 1.

Δ AZ

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST
```

ΔAZ

DO														
7	0	0	14	245	0	0	0	0	12	135	63	42	1	180
7	0	0	15	243	1	270	0	0	11	63	62	41	1	225
7	0	0	14	245	1	270	0	0	13	339	62	41	1	180
7	0	0	14	245	0	0	1	0	10	225	61	41	1	180
7	0	0	15	247	0	0	0	0	13	144	62	41	1	225
7	1	270	14	245	0	0	0	0	14	4	62	41	1	225
7	1	270	14	245	1	225	0	0	18	293	61	41	1	180
7	0	0	14	245	1	270	0	0	14	176	61	41	1	180
7	1	270	14	241	0	0	0	0	22	82	62	41	1	225
7	0	0	14	241	0	0	0	0	21	330	62	41	1	225
7	0	0	13	243	0	0	0	0	22	237	62	41	1	225
7	0	0	14	245	1	270	0	0	31	130	62	41	1	225

FAULT CONDITION TEST 1.
A AZ
ROW 6 DISCONNECTED

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
 7    1  270   14  245    1   90    0    0   12  132   60   43    1  225
 7    0    0   14  245    0    0    1   90   12   65   60   42    1  135
 7    1  270   15  247    1  270    1   45   14  335   60   43    1  135
 7    1   90   14  245    0    0    1   90   12  229   60   43    1  180
 7    0    0   14  241    0    0    1    0   14  155   60   42    1  225
 7    0    0   13  243    1  270    0    0   14    0   59   42    1  180
 7    1   90   14  241    1  270    0    0   19    2   61   60   43    1  180
 7    0    0   14  245    1  270    1    0   15  180   58   42    1  180
 7    0    0   14  245    1  270    0    0   20   83   59   42    1  270
 7    0    0   14  245    0    0    0    0   21  330   59   42    1  180
 7    1  270   14  245    0    0    1    0   21  236   58   43    1  180
```

Re-Test Test 1.
Δ Az
Row 6 Reconnected

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
 7    0     0   14  241     0     0    0    0   12  132   61   39    1  180
 7    1    90   13  247     1   225    0    0   11   63   61   39    1  225
 7    0     0   14  245     1   270    0    0   14  335   61   39    1  225
 7    0     0   15  247     0     0    1    0   11  225   62   40    1  180
 7    1   270   13  249     1   270    0    0   14  195   61   39    1  180
 7    0     0   14  241     1   270    0    0   13   11   61   39    1  225
 7    0     0   13  243     1   270    0    0   19  291   61   39    1  225
 7    0     0   13  243     1   270    0    0   15  180   61   39    1  180
 7    1   225   14  241     0     0    0    0   22   82   62   40    1  180
 7    1   270   13  243     0     0    0    0   22  331   61   39    1  180
 7    1   270   14  245     0     0    1   90   21  236   61   39    1  225
 7    0     0   13  243     1   270    1    0   30  129   61   39    1  180
 7    1   270   14  245     1   225    0    0   27   51   61   39    1  225
 7    1    90   14  245     1   270    1   90   25  291   61   39    1  225
```

6/11/76

INIT. CONDITION TEST 1.
Σ RCVR

1 – 54

ENTER PRIMARY CONTROL ROW

1

ENTER FIRST ALTERNATE CONTROL ROW

2

ENTER SECOND ALTERNATE CONTROL ROW

3

BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO							Σ RCVR AMP	Σ RCVR φ						
7	21	1 5 4	26	191	57	293	15	291	5	225	77	79	64	115
A														
7	21	159	26	195	56	294	16	191	14	151	77	79	66	113
7	21	161	28	197	57	295	3	183	11	340	78	79	65	114
7	21	156	27	195	56	295	15	11	9	328	79	80	69	113
7	21	158	26	191	57	295	15	189	19	208	79	80	69	112
7	21	158	26	193	57	295	19	133	14	36	78	80	69	113

4

FAULT CONDITION TEST 1,
Σ RCVR
ROW 5 DISCONNECTED

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7    21  142   24  185   56  279   14  274    8  216   77   72   67   96
7    21  142   24  185   56  279   16  173   16  138   77   72   66   96
7    21  142   24  182   56  279    3  161   10  338   78   73   67   97
7    21  146   24  182   56  280   15    0   13  311   76   74   67   96
7    21  146   25  185   56  279    1   45   14  155   77   72   66   96
7    21  142   24  185   56  280   18  115   17  117   77   72   67   97
7    21  142   24  185   56  280   21   33   24  359   77   72   67   96
7    20  145   24  185   56  279   23  279   25  241   77   72   67   96
7    20  145   24  185   56  280   24  199   24  153   77   72   67   97
7    21  142   24  185   56  280   25   99   28   43   78   72   67   97
7    20  145   24  185   55  280   30  337   33  299   78   72   67   97
7    21  146   23  185   56  280   34  257   31  199   77   72   67   96
7    20  145   23  185   55  279   31  139   42  181   77   72   67   96
```

Re-Test Test 1
& RCVR
Row 5 Reconnected

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7	22	144	24	182	56	279	15	278	7	223	73	69	68	94
7	21	142	25	185	56	280	17	177	17	142	78	70	66	95
7	21	145	24	185	56	280	2	153	10	338	78	70	69	95
7	21	142	24	185	56	279	15	0	11	336	78	69	68	94
7	21	142	24	182	55	280	15	258	22	199	76	69	68	93
7	21	142	24	185	56	280	17	117	17	69	78	69	68	94
7	20	141	24	185	55	280	21	38	24	355	76	69	68	94
7	21	146	25	185	56	280	20	279	24	240	78	69	67	94
7	21	142	24	182	55	280	25	199	23	149	78	69	68	94
7	21	142	24	185	56	280	25	101	20	43	77	70	68	94
7	20	145	24	185	56	279	30	337	33	295	78	69	68	94
7	20	145	24	185	56	280	34	255	31	208	73	69	67	94
7	21	142	25	182	56	280	32	141	41	101	77	70	68	94
7	22	144	25	185	56	279	34	52	32	9	78	69	67	94

TEST 2 Part B XMITTERS 7, 9, 10, 11 ON

6/11/76

f2

LOOP E 15A AND 15B
GTA

ROW NUMBER	MEAN	STD
1.-	0.63	0.50
2.-	0.68	0.43
3.-	0.69	0.48
4.-	0.65	0.53
5.-	0.70	0.46
6.-	0.66	0.47
7.-	10.89	0.39
8.-	0.65	0.47
9.-	14.77	0.42
10.-	20.14	0.42
11.-	20.77	0.42
12.-	0.57	0.49
13.-	0.59	0.49
14.-	0.64	0.47

57

LOOP E 15A AND 15B
GTA

ROW NUMBER	MEAN	STD
1.-	0.58	0.50
2.-	0.49	0.50
3.-	0.59	0.49
4.-	0.48	0.49
5.-	0.53	0.50
6.-	0.50	0.50
7.-	0.36	0.34
8.-	0.52	0.50
9.-	12.09	0.36
10.-	21.07	0.41
11.-	22.03	0.29
12.-	0.46	0.49
13.-	0.50	0.50

f 13

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.60	0.48
2.-	0.60	0.50
3.-	0.57	0.54
4.-	0.51	0.50
5.-	0.51	0.50
6.-	0.57	0.49
-7.-	11.67	0.47
8.-	0.62	0.48
-9.-	15.62	0.48
-10.-	16.66	0.46
-11.-	12.45	0.51
12.-	0.51	0.50

9

TEST 2
6/11/26

RETEST XMITTERS
7, 9, 10, 11 ON

SHEET 1 OF 2

f2

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.42	0.50
2.-	0.50	0.50
3.-	0.43	0.49
4.-	0.49	0.50
5.-	0.41	0.49
6.-	0.56	0.49
— 7.-	11.03	0.35
8.-	0.58	0.49
— 9.-	14.03	0.37
—10.-	18.89	0.40
—11.-	20.03	0.38
12.-	0.57	0.49
13.-	0.60	0.50

f7

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.49	0.50
2.-	0.58	0.50
3.-	0.53	0.50
4.-	0.53	0.50
5.-	0.60	0.49
6.-	0.54	0.49
7.-	9.07	0.27
8.-	0.53	0.50
9.-	13.09	0.33
10.-	22.01	0.40
11.-	22.92	0.46
12.-	0.49	0.50
13.-	0.54	0.49

TEST 2
RETEST XMITTERS
7, 9, 10, 11 ON
SHEET 2 OF 2

f13

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.63	0.48
2.-	0.57	0.51
3.-	0.67	0.46
4.-	0.56	0.49
5.-	0.61	0.48
6.-	0.57	0.49
7.-	12.83	0.43
8.-	0.60	0.53
9.-	16.15	0.41
10.-	17.39	0.48
11.-	12.94	0.34
12.-	0.59	0.49
13.-	0.64	0.48

Test 2.
6/11/76

xmitter 7 OFF

SHEET 1 OF 2

f2

LOOP E 15A AND 15B
GIA

ROW NUMBER	MEAN	STD
1.-	0.62	0.48
2.-	0.58	0.52
3.-	0.60	0.49
4.-	0.61	0.48
5.-	0.60	0.48
6.-	0.62	0.48
7.-	0.64	0.48
8.-	0.59	0.50
9.-	14.04	0.31
10.-	19.75	0.45
11.-	20.71	0.47
12.-	0.63	0.48
13.-	0.67	0.47

12

f7

LOOP E 15A AND 15B
QTA

TEST 2
XMITTER 7 OFF
SHEET 2 OF 2

ROW NUMBER	MEAN	STD
1.-	.50	0.50
2.-	2.53	0.49
3.-	2.59	0.49
4.-	0.45	0.49
5.-	0.46	0.49
6.-	0.53	0.49
7.-	0.52	0.50
8.-	0.51	0.50
9.-	13.67	0.41
10.-	21.02	0.37
11.-	21.99	0.36
12.-	0.48	0.49
13.-	0.48	0.49
14.-	0.51	0.50

f13

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.63	0.53
2.-	0.60	0.49
3.-	0.60	0.48
4.-	0.62	0.48
5.-	0.58	0.49
6.-	0.60	0.48
7.-	0.60	0.48
8.-	0.65	0.47
9.-	15.86	0.39
10.-	16.65	0.55
11.-	12.43	0.49
12.-	0.60	0.48
13.-	0.67	0.48

Part B
Test 3
6/11/76

SHORT RANGE
AZ & EL MEAN VALUES
INIT. CONDITION

LOOP D
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE
12A THROUGH D 14A AND 14B

RESPOND--14Ø
AUTOMATIC FAULT STATUS
1Ø1Ø1Ø2ØØ,ØØØØØ2Ø1ØØØ1Ø2ØØØØØ2ØØØØØ

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS Ø.

NUMBER OF REPLYS WITH NO TGT DETECTIONS Ø.

	MEAN	STD
AZ	.723	.Ø19
EL	1.Ø52	.Ø26
SUM	1Ø3.Ø1	Ø.72
RG	279.38	Ø.Ø
SUM -I	3Ø.34	1.Ø4
SUM -Q	- 88.22	Ø.7Ø
D AZ-I	84.6Ø	Ø.68
D AZ-Q	- 54.13	Ø.84
D EL-I	89.67	Ø.79
D EL-Q	- 4Ø.97	Ø.27

14

TEST 3 SHORT RANGE
UNIT 6 J611 (AEL) WITH 6DB ATTEN. INSERTED

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	.736	.017
EL	.354	.009
SUM	173.03	0.80
RG	279.38	0.0
SUM -I	32.21	0.53
SUM -Q	87.11	0.74
D AZ-I	84.66	0.90
D AZ-Q	54.13	0.95
D EL-I	64.49	0.73
D EL-Q	77.40	0.68

Test 3 SHORT RANGE

UNIT 6 J60 (AAZ) WITH 606 ATTEN. INSERTED

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE RIPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	.297	.012
EL	1.091	.019
SUM	103.28	0.91
RG	279.38	0.0
SUM -I	31.23	0.62
SUM -Q -	80.09	0.81
D AZ-I	58.60	0.81
D AZ-Q -	81.63	0.99
D EL-I	89.83	0.78
D EL-Q -	38.10	0.54

16

Test 3 SHORT RANGE
AZ & EL MEAN VALUES
Retest

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	.770	.018
EL	1.067	.024
SUM	103.21	0.85
RG	279.38	0.0
SUM -I	31.30	0.93
SUM -Q	87.92	0.65
D AZ-I	64.64	0.52
D AZ-Q	54.50	0.76
D EL-I	90.20	0.74
D EL-Q	39.29	0.79

Part B
Test 4 Phase Shifter Test
6/11/76 Initial Condition
JEW

Run #1

CLASS 4 INTERRU
LOOP D
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE
12A THROUGH D 14A AND 14B

RESPOND--=14Ø
AUTOMATIC FAULT STATUS
1Ø1Ø1ØØ2ØØØØØØØ1ØØØ1ØØØØØØØØØØØ

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS Ø.

NUMBER OF REPLYS WITH NO TGT DETECTIONS Ø.

	MEAN	STD
AZ	.842	.025
EL	- .Ø65	.Ø14
SUM	1Ø3.37	1.21
RG	279.55	Ø.Ø6
SUM -I -	59.16	1.Ø4
SUM -Q -	73.91	Ø.95
D AZ-I -	2.4Ø	Ø.96
D AZ-Q	96.79	1.96
D EL-I -	69.34	1.61
D EL-Q -	75.91	1.98

Σ Phase -128.7°
ΔAz Phase 91.4°

Test 4 (-90° Phase added to Σ Phase shifter
6/11/76

Run #2

LOOP D
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE
12A THROUGH D 14A AND 14B

RESPOND--14a
AUTOMATIC FAULT STATUS
10101000000000010001000000000000

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

Run #2 Σ Phase - Run #1 Σ Phase = 268.7°

	MEAN	STD
AZ	-1.122	.028
EL	.000	.010
SUM	114.16	1.32
RG	279.58	0.0
SUM -I -	80.60	1.04
SUM -Q	67.64	0.39
D AZ-I -	2.09	1.01
D AZ-Q	97.41	1.01
D EL-I -	74.38	0.28
D EL-Q	62.31	0.96

Σ Phase 140.0°

14

LOOP D
THIS PROGRAM PROCESSES SHORT RANGE REPLYS
ACTIVE TEST NUMBERS ARE
1 A[illegible] [illegible] 14A AND 14B

Test #4 -90° added to DAZ Phase shifter
6/11/76
Run #3

RESPONL--14
AUTOMATIC FAULT STATUS
1010100000000000100010000000000000

TARGET 1 NO. MESSAGES 128.

NO. MULTIPLE REPLYS 0.

NUMBER OF REPLYS WITH NO TGT DETECTIONS 0.

	MEAN	STD
AZ	= .751	.022
EL	= .056	.013
SUM	95.42	11.77
RG	380.66	13104.55
SUM -I =	56.98	11.38
SUM -Q =	71.07	14.35
D AZ-I	93.78	14.44
D AZ-Q	21.07	9.07
D EL-I =	66.50	13.48
D EL-Q =	76.97	1.46

Run #3 Run #1
DAZ Phase − DAZ Phase = 28.13°

DAZ Phase 12.7°

APPENDIX S

PRELIMINARY HEAT TEST PROCEDURE AND DATA

1.0 Heat Run

1.1 Purpose

The purpose of this test is to demonstrate that no temperature problem will be encountered with the AN/TPS-59 radar during service test.

1.2 Applicable Documents

1. ELEX-R-50, Paragraphs 4.2.1.6 & 4.2.3.4
2. Work Statement Contract No. N00039-72-C-0356
   Requisition No. EH-88274 ATP Ref. 4.6

1.3 Test Equipment and Test Support

1. Thermometer
2. Thermocouples

1.4 Conditions Prior to Test

A. The following programs shall be used to indicate that the system is in a fully operational condition prior to the start of the test.

E-15 Program

This program will be used to measure the transmitter outputs at f2 on rows 7, 8, 9, and 10.

Phase Measurement Program

This program will be used to measure the Σ Receiver and ΔAZ Receiver outputs at f7 on Rows 7, 8, 9 & 10.

D2 Readout from Normal Tactical Program

This readout will be used to measure the Signal Processor outputs.

1.4 Conditions Prior to Test (Continued)

B. Thermocouples or other suitable temperature sensing devices shall be placed in the following locations:

Radar Control Shelter

Location No.	Assembly	Location
1	Power Supply +5V	8A13PS1
2	Power Supply Regulator PWB	8A8A6
3	Digital Display Indicator	8A8A10

Signal Processing Shelter

Location No.	Assembly	Location
1	Arithmetic Unit, PWB	7A1A1A416
2	Arithmetic Unit, PWB	7A3A1A412
3	Power Supply, +5V	7PS3
4	Amplifier - Filter Board	6A3A4

Array

Location No.	Assembly	Location
1	Transmitter/Receiver Compartment	Row 8
2	Row Power Supply Compartment	Row 8
3	Row 8 PS	Center of Heat Sink
4	Row 8 Transmitter/Receiver Center AR1-Arg	Heat Sink

AD-A056 284 GENERAL ELECTRIC CO SYRACUSE N Y F/G 17/9
AN/TPS-59(XN-1) EDM RADAR SET, MARINE LIGHTWEIGHT TACTICAL 3D E--ETC(U)
APR 77 N00039-72-C-0356
UNCLASSIFIED EH-88274-VOL-2 NL

7 OF 7
AD
A056 284



END
DATE
FILMED
8-78
DDC

1.4 Conditions Prior to Test (Continued)

Note: The temperature sensors are placed at locations where above average or hot spot temperatures are anticipated. There are no pass/fail criteria established for this data. Readings will be evaluated by design engineering for design impact and included in the Acceptance Test Report.

C. The shelter temperatures shall be measured, away from the input ducts of each air conditioner, in order to measure whelter ambients.

1.5 Pass/Fail Criteria

Failures of the radar will be determined as follows:

E-15 Program

The transmitter output at f2 from Rows 7, 8, 9, and 10 will be considered to be failed if the "mean" value is less than value indicated for row.

See sample output below:

ROW NUMBER	MEAN	FAIL VALUE	STD
1.-	Ø.8Ø		Ø.4Ø
2.-	Ø.83		Ø.41
3.-	Ø.85		Ø.37
4.-	Ø.86		Ø.4Ø
5.-	Ø.84		Ø.46
6.-	Ø.83		Ø.39
7.-	5.69	3.5	Ø.48
8.-	9.74	6.5	Ø.44
9.-	6.32	4.3	Ø.46
10.-	13.79	10.0	Ø.42
11.-	17.42		Ø.52
12.-	Ø.85		Ø.36
13.-	Ø.32		Ø.38
14.-	Ø.79		Ø.44

Phase Measurement Program

The Σ Receivers and ΔAZ Receivers will be considered to be failed if the amplitude of their outputs at rows 7, 8, 9, and 10 is less than 6.

See sample output below:

Enter Primary Control Row

1. Enter first alternate control row

2. Enter second alternate control row

3. Beginning ten second real time clock test

Row	DO	ACU	AF			Σ Rcvr AMP	Σ Rcvr Ø	ΔAZ Rcvr AMP	ΔAZ Rcvr Ø				
1	7	19	152	14	289	11	275	13	99	63	7	50	106
2	7	17	153	14	288	13	180	10	34	64	7	51	105
3	7	17	153	14	289	2	153	15	304	64	7	50	103
4	7	17	153	14	290	13	4	9	199	64	7	50	104
5	7	18	150	14	289	13	243	14	115	64	7	51	104
6	7	17	153	14	291	15	117	14	335	64	7	51	104
7	7	17	153	14	289	17	43	19	264	79	229	81	239
8	7	17	153	14	289	17	291	14	164	84	155	93	169
9	7	17	153	14	289	21	206	22	52	83	331	92	353
10	7	17	153	14	289	21	106	21	304	83	68	91	94
11	7	17	153	14	290	25	341	23	206	83	102	86	125
	7	17	153	14	289	29	358	31	103	65	9	52	103
	7	17	153	14	290	26	147	28	17	63	8	51	104
	7	17	153	14	289	29	57	27	270	64	6	50	104
	7	19	152	14	289	31	297	34	163	64	7	51	105
	7	17	153	13	290	1	90	1	0	64	6	51	04
	7	17	153	14	290	Ø	0	1	0	63	8	51	106

D2 Readout from Normal Tactical Program

The Signal Processor will be considered to be failed if the following limits are not met:

(See sample output below:)

D2

PROCESSOR RESPONSE

LR	-	LFM	(145 MIN)	193
SR	-	SP	(47 MIN)	108
SR	-	LFM	(47 MIN)	72
MTI	-	LFM	(13 MAX)	4

1.6 Test Procedure

The heat test will be performed as outline below:

1. Prior to the beginning of the test the data described in paragraph 1.5 shall be collected and determined to be within specified limits.

2. The radar shall be operated in the 10 second normal mode of operation.

3. The azimuth platform is not rotated during this test.

4. Array Heat Test

   Two thermocouples shall be used to measure the ambient temperature in the enclosed surrounding transmitter/receivers and power supplies at Rows 7, 8, 9 and 10. When the ambient temperature (determined by the average of the two thermocouple readings) reads 50°C $\pm$ 5°C the test shall start. Measurements of the enclosure ambient and of the temperature of the transmitter/receiver case and the power supply case on Row 8 will be recorded every 30 minutes. At the end of every hour the data collected at the start of the test shall be collected again; then the test shall proceed until eight hours has expired. If a failure is determined, the array portion of the test shall stop and the time of failure recorded.

1.6 Test Procedure (Collected)

5. Shelter Heat Tests

Air conditioner two in the Radar Control Shelter and air conditioner one in the Signal Processing Shelter shall be turned off. The shelter fans in the Signal Processing Shelter shall be turned on and the vent in the door opened. Every hour the ambient temperature in the two shelters shall be measured and recorded. Every hour the D2 Readout data shall be collected. This test shall last for four hours. The shelter test shall be terminated and the time recorded if either the D2 Readout data is outside the specified limits or if the overtemperature lights on Unit 6, Unit 7 or Unit 8 are turned on.

At the conclusion of the shelter heat run, the temperature sensors listed in paragraph 1.4 that are located in the Radar Control Shelter and the Signal Processing Shelter shall be read.

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1630

```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN

:

PM995

:

PM000

:

PM 20

:D2

 PROCESSOR RESPONSE
     L? - LFM     ( 145 MIN)   194
     SP - SP      (  47 MIN)    98
     SE - LFM     (  47 MIN)    73
     MTI - LFM    (  13 MAX)     3

:
LOOP E 15A AND 15B
:DTA

ROW NUMBER     MEAN          STD

     1.-      0.37          0.48
     2.-      0.35          0.47
     3.-      0.33          0.48
     4.-      0.35          0.47
     5.-      0.41          0.49
     6.-      0.38          0.48
     7.-      7.08          0.34
     8.-      0.32          0.46
     9.-     11.95          0.36
    10.-     14.42          0.48
    11.-     21.35          0.49
    12.-      0.36          0.47
    13.-      0.35          0.50
    14.-      0.39          0.48
```

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

REAL TIME CLOCK OUT AT 1024 HZ

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
7   12  185   19  211   35  317   10  299    0    0   55   60   44  131
 A
7   15  176   22  209   41  312   12  199    8  153   55   60   47  128
7   15  172   23  206   43  311    2  135   12  325   57   58   47  127
7   16  173   24  207   43  311   13   21    6  341   57   58   48  124
7   16  173   24  205   44  311   13  257   15  197   57   57   46  124
7   16  173   24  207   44  310   14  141    8   76   57   58   48  126
7   16  173   25  204   44  311   17   63   13    0   84  246   89  261
7   15  172   23  206   43  311   15  307   12  251   58   59   48  125
7   16  173   24  207   43  311   19  223    8  144   85  344   90    1
7   16  173   24  205   44  311   22  123    7   45   85   84   89  133
7   16  176   24  205   44  311   25    0   16  328   82  115   86  132
7   16  173   25  204   44  311   30  261   13  207   57   57   48  124
7   16  176   25  206   44  311   26  162   26  151   57   58   48  124
7   16  173   24  205   44  311   30   79   16   68   57   57   48  124
7   16  173   24  207   45  310   33  311   27  244   58   59   48  125
7   16  173   24  207   44  311    1    0    0    0   57   57   49  124
7   16  176   25  206   44  311    0    0    0    0   58   58   49  124
7   16  173   24  205   44  309   46   28   17    3   58   59   49  124
7   16  173   24  205   44  311   41  274   24  210   58   58   49  124
7   16  173   25  204   44  311   40  164   16   97   58   59   48  125
7   16  173   25  206   44  311   40   54   45  357   57   58   48  125
7   16  173   24  207   45  310   44  322    9  246   57   57   49  124
7   16  169   25  204   45  310   45  216   24  159   58   59   49  124
7   16  173   24  205   45  310   46  104   36   42   79  222   81  231
7   16  173   25  204   45  310   48  356   28  302   58   59   49  124
7   17  173   25  204   46  309   37  292   24  199   58   59   49  124
7   16  173   25  204   46  309   37   66   28    0   58   59   58  124
7   16  169   25  204   45  308   44  329   36  254   58   58   49  123
7   17  173   25  206   46  309   36  241   16  142   59   57   49  122
7   16  169   26  203   46  309   32  115   32   45   58   59   49  124
7   16  173   25  206   46  309   42   47   22  324   58   58   49  123
7   17  173   26  203   46  309   40  281   28  205   58   58   49  123
7   16  169   26  203   46  309   36  174   34  123   82   11   87  326
7   16  173   25  204   46  309   45  104   24   48   58   58   49  124
7   16  173   26  203   46  309   40  350   14  274   55   57   54  156
7   16  169   25  204   46  309   30  241   18  161   58   59   49  123
7   17  173   26  203   46  309   36  134   10   41   77  222   87  112
7   17  173   25  204   46  309   24   19   13  328   58   58   50  124
7   16  169   25  204   46  309    0    0    0    0   58   58   49  124
7   17  173   26  203   46  309    1    0    1
```

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW                                    Sheet 3 of 28
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
 7    0    0   13  243    1  270    0    0   26  353   58   14    1  225
 7    1  270   12  245    3    0    0    0    1   90   53   14    1  180
 7    1  270   13  243    1  270    1   90    1    0   58   15    1  225
 7    1  135   12  241    0    0    1   90   19   28   81  119    1  225
 7    0    0   12  241    1  270    1   90   17  286   58   14    1  180
 7    1  270   13  243    1  270    0    0   17  204   59   14    1  225
 7    0    0   12  241    1  270    0    0   14   90   83  332    1  180
 7    0    0   13  243    1  270    0    0   14  352   85   65    1  270
 7    1  270   13  243    1  270    0    0   13  234   85  344    1  180
 7    0    0   13  243    0    0    1   90   12  138   58   14    1  225
 7    0    0   12  241    1  270    0    0   10   37   56   15    1  270
 7    1  270   13  243    0    0    0    0   11    2   90   58   14    0    0
 7    0    0   13  247    1  270    0    0   10  191   58   14    1  180
 7    0    0   13  243    1  270    1   90    7   90   84  180    1  135
```

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```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN
RTC SWITCH IS ON INTERNAL- SET TO EXTERNAL AND TYPE
A CARRIAGE RETURN
:

:R
 RERUN

                                                    12:30
:

PM 23

:

PM  3

:D2
 INPUT UNDEFINED

:D2
 INPUT UNDEFINED

:D2
 INPUT UNDEFINED

:D2

 PROCESSOR RESPONSE
    LR - LFM     ( 145 MIN)   192
    SR - SP      (  47 MIN)    96
    SR - LFM     (  47 MIN)    69
    MTI - LFM    (  13 MAX)    11
```

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LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.69	0.59
2.-	0.74	0.54
3.-	0.71	0.52
4.-	0.62	0.53
5.-	0.67	0.51
6.-	0.66	0.56
7.-	9.28	0.46
8.-	12.87	0.45
9.-	13.80	0.45
10.-	16.91	0.53
11.-	15.44	0.51
12.-	0.69	0.52
13.-	0.68	0.54
14.-	0.74	0.50
15.-	0.69	0.54
16.-	0.71	0.54
17.-	0.70	0.52
18.-	0.71	0.53
19.-	0.65	0.55
20.-	0.68	0.55

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO

	ACU	AF														
7	16	173	24	205	43	311	12	284	8	225	56	67	47	131		
7	16	173	24	201	44	309	12	194	11	135	57	65	49	128		
7	17	170	25	204	45	308	2	180	12	331	58	65	48	127		
7	16	169	25	204	46	307	11	27	2	0	58	65	48	127		
7	18	171	26	203	46	309	13	270	15	207	57	65	49	128		
7	17	170	25	201	45	308	14	141	7	67	58	65	50	127		
7	17	173	25	204	46	309	17	66	10	6	84	255	89	254		
7	17	170	24	201	46	307	15	305	11	255	86	173	87	186		
7	16	169	26	203	45	308	19	219	11	149	85	346	90	2		
7	17	173	26	203	46	307	21	122	9	41	85	91	87	110		
7	17	170	25	204	46	307	22	0	15	297	81	122	85	136		
7	17	170	26	203	46	307	31	281	12	209	58	65	49	126		
7	17	170	26	203	45	308	25	166	22	105	56	64	48	127		
7	16	173	26	203	46	307	32	81	17	40	57	64	48	127		
7	17	170	24	201	46	307	34	314	29	254	56	65	49	128		
7	16	169	24	201	46	307	0	0	0	0	57	65	49	128		
7	18	171	25	204	46	307	1	0	0	0	57	64	48	127		
7	17	170	25	201	45	308	46	27	15	0	57	65	48	128		

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
7     0    0   13  243    0    0    0    0   12  138   55   19    1  180
7     0    0   13  243    1  225    0    0   12   65   55   20    1  270
7     0    0   12  245    0    0    0    0   14  331   55   19    0    0
7     0    0   13  247    0    0    0    0   11  218   55   21    1  180
7     1  180   13  243    0    0    1   90   13  152   55   19    0    0
7     0    0   12  245    1  225    0    0   15    2   55   19    1  180
7     1  270   13  243    0    0    0    0   18  276   83  253    1  180
7     1  270   12  245    1  270    0    0   12  171   85  166    1  270
7     0    0   13  243    0    0    0    0   23   73   83  339    1  180
7       1  270   12  241      1  270      1   90   21  330   84   83    1  180
7     1  270   12  241    1  270    0    0   23  227   82  113    0    0
7     0    0   13  243    0    0    0    0   31  123   56   20    0    0
7       1  270   13  243      1  180      1   90   27  138   55   20    1  180
7     0    0   12  245    0    0    1   90   24  289   56   20    1  180
7     0    0   13  243    0    0    0    0   33  185   56   20    1  270
7     0    0   12  241    0    0    0    0    1    0   57   19    1  180
7     1  180   12  241    0    0    1    0    1   90   56   20    1  135
7     1  270   13  247    0    0    1   90   41  221   56   20    1  180
7     0    0   13  247    0    0    0    0   39  138   56   20    1  180
7     0    0   12  245    0    0    0    0   40    9   56   20    0    0
7     1  180   12  245    0    0    1   90   43  304   55   19    0    0
7     0    0   13  243    0    0    1    0   44  159   56   20    1  180
7     0    0   13  247    0    0    0    0   45   69   55   20    1  180
7     0    0   12  245    1  180    0    0   43  331   78  221    0    0
7       0    0   12  245      0    0    0    0   43  215   55   19    1  225
7     0    0   13  243    1  180    0    0   45  146   55   19    1  180
7     0    0   12  245    1  180      1   90   40  289   56   20    1  180
```

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```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:?
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN


:R
  RERUN


:

PM 23


:D2


 PROCESSOR RESPONSE
    LR - LFM     ( 145 MIN)    190
    SR - SP      (  47 MIN)     98
    SR - LFM     (  47 MIN)     72
    MTI - LFM    (  13 MAX)      4


:
LOOP E 15A AND 15B
QTA

ROW NUMBER        MEAN              STD

     1.-          0.69              0.52
     2.-          0.78              0.54
     3.-          0.68              0.49
     4.-          0.68              0.51
     5.-          0.67              0.54
     6.-          0.73              0.52
     7.-         11.50              0.51
     8.-         13.60              0.53
     9.-         13.62              0.48
    10.-         16.67              0.48
    11.-         16.84              0.49
    12.-          0.73              0.56
    13.-          0.72              0.47
    14.-          0.75              0.54
    15.-          0.64              0.48
    16.-          0.68              0.52
    17.-          0.74              0.51
```

11.30

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DC
      ACU  AF
7     18  174   26  205   48  310   13  291    4  225   60   71   50  131
7     18  174   26  205   48  310   13  197    8  153   61   70   50  130
7     17  170   26  203   48  308    2  180   11  322   61   71   51  129
7     18  171   26  205   48  308   12   25    5    0   62   71   51  129
7     17  173   26  203   49  309   14  274   13  210   61   71   51  130
7     18  171   26  205   48  308   15  145    9   77   61   71   51  129
7     18  174   26  203   48  310   18   78   13    4   86  257   89  263
7     18  174   27  204   47  309   15  305   12  256   86  177   87  167
7     18  174   26  205   48  308   19  227   11  142   86  352   89    4
7     18  171   26  205   48  308   20  125    8   54   85   94   86  113
7     18  171   26  205   49  309   24    7   16  312   80  127   86  140
7     18  174   26  205   49  309   31  283   16  255   62   71   51  130
7     18  174   26  205   48  308   27  169   25  108   61   71   52  130
7     18  171   27  204   48  308   31   33   17   24   61   71   51  130
7     18  174   27  204   47  309   34  318   29  250   62   71   52  128
7     18  171   26  205   48  310    0    0    1    2   61   71   52  129
7     18  171   26  205   48  308    0    0    1   90   62   71   51  129
7     18  174   26  205   48  308   48   33   18    6   62   71   52  128
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DC
7     1  270   13  247    0    0    0    0   13  126   57   26    1  225
7     1  180   13  247    0    0    1    0   13   61   57   25    1  180
7     0    0   13  249    1  270    0    0   13  339   57   26    1  180
7     0    0   13  247    1  270    0    0   10  329   57   26    0    0
7     0    0   13  249    1  180    1   90   13  147   57   26    1  180
7     1  225   13  243    0    0    1   90   15    4   57   25    1  225
7     0    0   13  247    0    0    1   45   19  283   85  256    0    0
7     0    0   13  247    0    0    1   90   13  176   87  171    1  225
7     0    0   13  247    0    0    0    0   22   77   86  347    1  180
7     0    0   13  243    0    0    1   90   21  330   85   87    1  180
7     1  180   13  247    1  180    1   90   22  232   81  120    0    0
7     0    0   14  245    1  270    0    0   32  130   57   25    0    0
7     1  180   14  245    0    0    1    0   28   42   57   25    1   90
7     0    0   13  243    0    0    1   90   23  290   57   25    1  180
7     0    0   13  249    0    0    0    0   37  166   57   25    1  180
7     0    0   13  247    1  270    0    0    0    0   57   26    0    0
7     0    0   13  247    0    0    0    0    1   45   57   25    1  270
7     0    0   13  247    0    0    1   90   40  226   57   25    1  180
7     0    0   13  247    1  270    0    0   39  135   57   26    1  225
7     0    0   13  247    1  270    1   90   40   14   57   25    1  180
7     0    0   13  247    1  270    1   90   47  308   57   26    0    0
7     0    0   13  243    0    0    0    0   45  162   57   25    1  180
7     0    0   14  245    0    0    0    0   46   74   56   26    1   90
```

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```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN

:R
  RERUN

:

PM 23

:

:

PM 23

:D2

 PROCESSOR RESPONSE
    LR - LFM     ( 145 MIN)   193
    SR - SP      (  47 MIN)    99
    SR - LFM     (  47 MIN)    76
    MTI - LFM    (  13 MAX)     3
```

10:40

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.66	0.57
2.-	0.71	0.54
3.-	0.67	0.56
4.-	0.78	0.50
5.-	0.74	0.57
6.-	0.74	0.53
7.-	11.69	0.52
8.-	14.05	0.39
9.-	14.42	0.49
10.-	16.48	0.51
11.-	17.63	0.51
12.-	0.72	0.57
13.-	0.73	0.55
14.-	0.74	0.49
15.-	0.67	0.51
16.-	0.74	0.53
17.-	0.64	0.51
18.-	0.79	0.55
19.-	0.64	0.55
22.-	0.71	0.59

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ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO

7	19	177	26	207	49	313	14	239	3	236	64	77	52	133
7	19	177	27	209	50	313	13	221	8	193	64	77	50	133
7	19	177	27	206	50	313	2	188	11	329	64	77	52	132
7	18	174	26	207	49	312	12	25	5	338	64	77	53	133
7	18	174	26	207	49	312	14	270	15	215	65	76	53	133
7	18	174	26	207	49	312	16	150	9	84	64	77	52	132
7	18	174	26	207	49	312	18	71	13	0	85	263	90	267
7	19	174	27	209	48	311	16	312	12	270	86	181	87	193
7	19	174	27	209	49	312	19	231	10	146	86	356	88	7
7	19	174	26	207	49	312	23	138	10	53	84	100	86	117
7	18	174	26	207	49	312	25	11	16	315	81	132	87	143
7	19	174	27	206	49	312	33	286	17	216	64	77	53	133
7	19	174	26	207	49	312	27	174	25	114	64	77	53	131
7	18	174	26	207	49	312	32	88	17	28	64	77	52	132
7	18	174	26	207	50	311	36	323	31	255	64	77	52	132
7	18	174	28	208	49	312	0	3	1	98	64	77	52	132
7	18	174	26	207	49	312	1	2	2	0	65	76	53	131
7	19	174	26	207	49	312	50	97	10	9	65	76	53	132
7	18	177	26	207	49	312	43	283	27	221	65	77	52	132

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST
DO
 7    1  180   13  249    1  270    0    0   13  132   57   33    0    0
 A
 7    1  270   12  251    1  270    0    0   11   63   57   32    1  135
 7    0    0   13  249    1  180    1   90   14  335   58   31    0    0
 7    1  270   13  247    0    0    0    0   18  229   57   30    0    0
 7    1  270   13  253    1  270    1   90   14  164   57   32    1  270
 7    1   90   13  249    0    0    1   90   16    4   58   31    1  225
 7    1  270   13  247    0    0    1   90   19  291   65  262    1  225
 7    0    0   13  247    0    0    0    0   12  183   66  176    1  225
 7    1  270   13  249    1  225    0    0   23   60   66  351    0    0
 7    0    0   13  253    0    0    1   90   21  336   65   93    1  270
 7    0    0   13  249    0    0    1    0   23  237   60  127    1  180
 7    0    0   13  249    1  270    0    0   32  138   57   32    0    0
 7    0    0   13  249    1  270    1   90   27   49   57   33    1  180
 7    0    0   13  249    1  270    0    0   27  296   57   32    1  270
 7    0    0   13  249    0    0    1   90   38  194   58   31    0  207
 7    1  270   13  249    0    0    0    0    1   90   57   33    1  180
 7    0    0   13  249    0    0    0    0    1   90   58   31    0    0
 7    1  270   13  249    1  270    0    0   45  232   57   32    1  270
 7    0    0   13  247    1  270    1   90   40  142   57   32    0    0
 7    0    0   13  249    0    0    1   90   41   34   57   33    1  180
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0930

D2

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	200
SR - SP	(47 MIN)	102
SR - LFM	(47 MIN)	78
MTI - LFM	(13 MAX)	3

:
LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.65	0.55
2.-	0.59	0.50
3.-	0.58	0.55
4.-	0.64	0.55
5.-	0.57	0.51
6.-	0.66	0.53
7.-	12.69	0.48
8.-	13.99	0.45
9.-	14.82	0.45
10.-	16.97	0.49
11.-	19.14	0.45
12.-	0.62	0.50
13.-	0.57	0.51

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```
LOOP E 15A AND 15B

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
7   19  1  83   27  213   52  317   15  302    4  243   72   84   47  128
7   19  180  28  212   52  317   13  210    9  161   72   84   47  128
7   20  180  27  210   52  317    5  180   13  337   73   85   46  127
7   19  183  28  212   52  317   13   33    6    0   73   84   46  128
7   19  183  28  212   51  316   15  278   17  223   73   85   47  128
7   19  183  26  212   51  316   17  156   10   90   73   84   47  127
7   19  183  27  213   51  316   19   81   15    6   86  270   90  275
7   19  183  27  213   52  315   17  317   13  270   85  190   84  199
7   20  180  28  212   52  317   20  237   12  155   86    5   86   14
7   20  180  28  212   51  316   24  138   10   61   85  109   85  124
7   19  183  27  210   52  317   25   28   17  322   82  145   90  152
7   19  177  28  212   51  316   34  294   17  223   72   84   47  126
7   19  183  28  212   51  316   29  180   26  120   72   84   47  128
7   19  177  27  210   52  317   34   93   18   36   72   84   47  128
7   19  183  27  210   52  317   37  329   32  263   73   85   46  128
7   20  177  28  212   52  317    0    0    0    0   72   84   47  128
7   19  180  26  212   53  316    0    0    0    0   72   84   47  128
7   19  180  26  212   51  316   51   44   19   15   73   85   48  127
7   20  177  27  210   51  316   46  290   29  227   72   84   47  126
7   20  180  28  212   52  317   43  180   18  109   72   84   47  128
7   19  177  27  210   50  317   45   72   53   15   72   84   47  128
7   20  183  28  212   52  317   51  337   12  270   72   84   47  127
7   20  177  27  210   51  316   48  233   27  187   72   85   49  128
7   20  183  28  212   51  316   53  119   42   61   82  242   87  240
7   20  183  29  211   52  315   52   10   39  336   71   84   47  128
7   19  177  27  210   51  316   41  309   26  215   72   84   46  128
7   20  180  28  212   52  317   42   81   34   15   72   85   48  128
```

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6-9-76

0720

```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7   28  172   25  252   70  311    7    0    7  255   61   67   71  147
A
7   28  174   22  251   70  311    8  277    6  141   62   67   71  147
7   27  174   22  249   69  310    0    3    7   45   63   68   73  145
7   27  174   22  251   70  311   15   48   12  251   63   68   74  145
7   27  174   22  249   69  312   15  252   15  177   63   67   72  148
7   27  174   21  251   69  310   19  156   13   23   63   67   72  143
7   28  174   22  251   70  311   25   83   24  310   63  332   93  251
7   27  174   22  251   72  312   43  313   19  153   67  233   97  269
7   25  174   22  251   70  311   23  249   28   96   62   68   85   36
7   27  174   22  251   72  311   27  142   26  347   88  152   91  146
7   28  174   22  251   69  312   30   19   27  249   91  173   96  168
7   27  174   22  251   70  311   32  248   30  149   65   65   71  127
7   28  174   21  251   69  312   32  156   31   62   64   64   71  147
7   27  174   22  249   70  311   30   99   29  318   60   62   69  142
7   27  174   22  251   70  311   36  332   39  285   68   63   66  144
7   27  174   22  251   70  311    0    0    1   90   63   63   67  143
7   27  174   23  252   69  312    0    0    0    0   69   61   66  140
7   27  176   22  249   70  311   46   48   35  247   69   61   65  141
7   28  174   22  251   70  311   40  293   38  157   69   61   66  143
7   27  174   22  249   69  312   22  229   23   70   69   61   65  142
```

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1440

PMS95

PM 20

:D2

PROCESSOR RESPONSE

LR - LFM	(145 MIN)	190
SR - SP	(47 MIN)	97
SR - LFM	(47 MIN)	74
MTI - LFM	(13 MAX)	3

LOOP E 15A AND 15B

ROW NUMBER	MEAN	STD
1.-	0.33	0.46
2.-	0.35	0.49
3.-	0.39	0.50
4.-	0.36	0.49
5.-	0.34	0.47
6.-	0.35	0.47
7.-	8.55	0.51
8.-	0.35	0.49
9.-	13.89	3.46
10.-	15.64	0.47
11.-	22.95	0.42
12.-	0.35	0.47
13.-	0.41	0.50
14.-	0.39	0.48

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
7   11  185   16  213   29  319    9  302    0    2   58   64   36  134
A
7   14  176   19  211   36  313   10  282    0  160   55   60   42  123
7   14  176   21  208   39  311    2  153   11  329   55   61   43  127
7   14  172   22  207   40  310   11   22    5  338   56   59   45  125
7   15  172   22  207   41  310   12  270   11  230   56   59   45  125
7   15  169   21  204   41  310   14  135    9   77   57   58   45  125
7   15  172   23  206   42  309   15   63   12    2   64  246   37  256
7   14  168   21  204   42  309   15  305   12  251   57   58   45  125
7   15  169   23  206   42  309   18  221    9  139   85  344   90    1
7   15  169   22  203   42  309   21  182    7   45   86   87   87  107
7   16  173   23  202   43  309   23    0   17  306   81  115   86  133
7   16  173   24  205   42  308   20  278   13  261   58   59   46  123
7   16  173   22  203   44  308   25  164   25  134   58   59   46  123
7   16  169   23  202   45  309   29   76   17   24   57   58   45  124
7   16  169   23  202   44  308   31  311   26  243   58   59   47  122
7   15  169   23  202   44  308    0    0    1   90   58   59   46  123
7   16  173   23  202   44  308    0    0    0    0   58   58   46  123
7   16  173   23  202   43  307   46   25   17    0   58   59   47  123
7   16  169   24  201   43  307   40  273   25  289
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
7    0    0   12  241    0    0    0    0   12  119   57   14    0    0
7    0    0   12  245    0    0    0    0   10   56   56   14    0    0
7    0    0   12  241    0    0    1    0   14  321   57   14    1  180
7    0    0   13  243    0    0    0    0   10  214   56   14    0    0
7    1  225   12  241    1  270    0    0   14  129   57   13    1  180
7    1  270   13  243    0    0    0    0   14    0   57   14    1  270
7    0    0   12  241    0    0    1    0   16  276   81  242    1  180
7    0    0   12  245    0    0    1   90   14  172   57   14    0    0
7    0    0   12  241    1  270    0    0   21   66   83  334    1  180
7    0    0   13  243    0    0    0    0   21  319   83   73    1  180
7    1  270   12  245    1  180    0    0   22  225   82  105    1  180
7    0    0   13  243    0    0    0    0   31  121   56   14    0    0
7    1  270   12  241    0    0    0    0   27   41   56   14    1  180
7    0    0   12  241    0    0    1   90   26  281   57   14    1  180
7    1  270   12  241    0    0    0    0   35  180   56   14    1  180
7    1  270   12  241    0    0    0    0    1    0   57   14    1  180
7    0    0   12  241    0    0    0    0    1    0   57   13    1  180
7    1  270   12  241    0    0    0    0   38  217   57   14    0    0
7    1  270   13  243    0    0    0    0   38  126   57   14    1  180
7    1  180   13  243    0    0    1   90   39    6   56   14    1  225
7    1  270   12  241    0    0    1   90   45  295   57   14    1  225
```

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7   15  176   21  204   40  310   11  280    8  213   55   63   47  128
 A
7   16  173   22  203   43  309   12  194    8  135   57   63   47  125
7   16  169   23  202   43  307    2  180   12  325   56   61   47  125
7   16  169   24  201   44  308   10   82    2    0   56   61   47  125
7   16  169   24  201   43  307   13  261   14  205   58   61   47  123
7   16  169   23  202   44  308   14  141    6   71   57   61   47  125
7   16  169   24  201   45  307   16   65   13    0   83  249   87  258
7   16  169   24  201   44  306   15  325   13  257   58   61   47  123
7   17  170   25  201   44  306   20  217   10  146   84  345   89    2
7   16  169   24  199   44  306   20  119    9   41   85   90   87  109
7   17  170   24  201   44  306   23    0   15  297   81  118   86  133
7   16  169   24  201   44  306   30  279   13  207   57   61   47  123
7   17  170   26  203   44  306   26  165   21  106   57   62   49  124
7   16  169   24  201   44  306   32   78   20   37   58   62   47  123
7   16  169   24  201   45  305   32  310   29  250   57   62   48  124
7   17  170   24  199   45  307    0    0    3    0   57   62   49  124
7   16  169   25  201   44  306
```

ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW

33
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO

7	0	0	13	243	1	270	0	0	11	135	55	18	1	180
7	1	180	12	241	0	0	0	0	12	65	55	17	0	0
7	0	0	12	241	0	0	0	0	14	331	56	18	1	225
7	0	0	12	245	0	0	0	0	11	218	56	18	1	180
7	1	180	13	247	1	270	0	0	13	144	56	17	1	180
7	0	0	12	241	0	0	0	0	15	349	55	18	1	180
7	0	0	12	241	1	270	0	0	18	273	82	246	0	0
7	1	270	13	243	1	270	0	0	12	175	56	18	1	180
7	0	0	12	241	0	0	0	0	21	68	83	336	1	225
7	0	0	13	243	0	0	0	0	20	325	84	79	1	180
7	0	0	12	241	0	0	0	0	24	225	82	111	0	0
7	0	0	12	245	0	0	1	90	31	121	56	17	0	0
7	0	0	12	245	0	0	0	0	28	39	55	17	0	0
7	0	0	12	241	0	0	0	0	25	264	56	17	1	180
7	0	0	13	243	0	0	1	90	33	180	56	17	1	225
7	0	0	12	241	1	180	0	0	0	0	55	17	1	225
7	0	0	11	243	1	225	0	0	1	0	56	17	1	180
7	1	225	12	241	0	0	1	90	43	217	56	18	0	0
7	0	0	12	241	0	0	0	0	38	124	56	18	1	180
7	0	0	12	245	1	270	0	0	39	6	55	16	0	0
7	0	0	12	241	1	180	0	0	43	299	55	18	0	0
7	0	0	11	239	0	0	0	0	44	153	56	17	0	0
7	0	0	13	243	0	0	0	0	45	65	55	17	0	0
7	0	0	12	241	0	0	1	90	41	326	79	211	0	0

LOOP F 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.44	0.49
2.-	0.43	0.51
3.-	0.44	0.51
4.-	0.42	0.53
5.-	0.49	0.53
6.-	0.40	0.48
7.-	8.64	0.52
8.-	0.42	0.53
9.-	15.27	0.44
10.-	18.28	0.39
11.-	25.84	0.49
12.-	0.43	0.52
13.-	0.45	0.51
14.-	0.49	0.52
15.-	0.39	0.51
16.-	0.44	0.51
17.-	0.39	0.51

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```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN
RTC SWITCH IS ON INTERNAL- SET TO EXTERNAL AND TYPE
A CARRIAGE RETURN
:


:

PM 20


:D2


 PROCESSOR RESPONSE
    LR - LFM     ( 145 MIN)   190
    SR - SP      (  47 MIN)    96
    SR - LFM     (  47 MIN)    68
    MTI - LFM    (  13 MAX)     1


:
```

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15:30

```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:N
IS IFF ON? TYPE Y OR N
:
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN

:

PM995

:

PM000

:

PM 20

:

PM995

PM 20

PM995

PM 20

:

PM995

:

PM 20

:
```

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D2

PROCESSOR RESPONSE)

LR - LFM	(145	MIN)	198
SR - SP	(47	MIN)	99
SR - LFM	(47	MIN)	73
MTI - LFM	(13	MAX)	1

LOOP E 15A AND 15B
QTA

ROW NUMBER	MEAN	STD
1.-	0.39	0.48
2.-	0.37	0.49
3.-	0.44	0.49
4.-	0.39	0.48
5.-	0.35	0.47
6.-	0.41	0.50
7.-	0.41	0.52
8.-	0.37	0.48
9.-	10.34	0.47
10.-	11.68	0.46
11.-	18.89	0.38
12.-	0.40	0.48
13.-	0.39	0.50
14.-	0.43	0.48
15.-	0.35	0.47
16.-	0.47	0.51
17.-	0.35	0.47
18.-	0.39	0.48
19.-	0.40	0.50
20.-	0.36	0.47
21.-	0.39	0.48
22.-	0.46	0.51

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DONE

7   15  172   22  207   41  311   13  293    4  284   54   59   45  125
 A
7   16  173   24  205   42  308   12  189    8  135   55   57   46  124
7   16  169   24  201   44  308    3   90   12  319   56   58   46  122
7   16  169   25  204   45  307   12   14    5  315   56   56   46  120
7   16  169   24  201   45  307   13  261   11  195   57   57   48  124
7   16  169   24  201   45  306   15  135    8   69   57   57   48  122
7   16  169   24  201   45  306   17   59   12    0   85  250   89  261
7   16  169   25  201   45  307   16  306   12  241   57   56   46  122
7   16  169   25  204   45  306   19  219    9  109   84  241   91  357
7   16  169   24  201   45  306   21  116    6   39   83   81   89  100
7   16  166   25  201   45  306   23    0   18  322   82  115   86  131
7   16  169   25  201   45  306   31  274   13  207   56   56   48  122
7   16  169   25  201   45  306   26  157   28  103   56   55   46  122
7   16  166   24  201   45  306   32   79   14   34   56   55   48  122
7   17  167   24  199   45  306   32  306   31  243   57   56   46  122
7   17  170   25  201   45  306    1    0    0    0   57   57   46  122
7   17  170   25  201   46  305    1   90    1   90   57   57   46  121
7   17  170   25  201   45  306   48   23
```

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```
ENTER PRIMARY CONTROL ROW
1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TH SECOND REAL TIME CLOCK TEST

DO
 7   0   0  13  243   1  270   0   0  10  119  57  12   0   0
 7   0   0  12  241   1  270   0   0  12   48  57  12   3   0
 7   0   0  12  241   1  270   1  45  13  318  57  11   0   0
 7   0   0  13  240   1  270   0   0  10  214  57  12   1 225
 7   0   0  13  240   1  270   0   0  12  129  57  12   1 180
 7   1 270  13  243   1  270   0   0  14  352  57  12   1 225
 7   1 180  13  240   1  270   0   0  16  274  83 240   1 135
 7   0   0  12  241   1  270   0   0  14  168  57  12   0   0
 7   0   0  13  237   1  270   0   0  21   69  83  333   1 135
 7   1 270  13  237   1  270   0   0  30  317  82   69   1 180
 7   1 270  13  240   1  225   0   0  21  227  83  106   0   0
 7   0   0  12  241   1  270   0   0  30  120  57  12   1 180
 7   1 270  13  240   1  270   0   0  27   43  57  11   1 180
 7   1 270  12  241   0   0   0   0  00  275  57  12   1  90
 7   1 180  12  241   0   0   1  90  36  184  57  12   1 180
 7   1 270  13  243   0   0   0   0   0    0  57  12   1 270
 7   0   0  12  241   1 270   1  90   1   45  57  12   1 180
 7   0   0  13  237   0   0   1  90  37  214  57  12   0   0
 7   1 270  12  241   1 270   1  90  40  125  57  11   0   0
 7   1 270  12  241   1 270   0   0  39    4  57  12   1 180
 7   0   0  13  237   1 270   0   0  45  293  57  12   1 135
 7   1 270  12  241   1 270   0   0  42  153  57  12   1 225
 7   1 270  12  241   1 270   0   0  45   62  57  12   0   0
 7   0   0  13  237   1 270   1  90  43  326  80 204   1 270
 7   1 270  13  243   1 270   1  90  45  206  57  11   0   0
 7   1 225  12  241   1 270   0   0  46  141  56  12   1 180
```

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```
PM000
:
PM 20
:
02

 PROCESSOR RESPONSE
    LR - LFM     ( 145 MIN)   200
    SR - SP      (  47 MIN)   100
    SR - LFM     (  47 MIN)    75
    MTI - LFM    (  13 MAX)     5

:POPO

    P
 INPUT UNDEFINED

:P
 PAUSE

LOOP E 15A AND 15B
QTA

ROW NUMBER     MEAN              STD

     1.-      0.47              0.54
     2.-      0.45              0.51
     3.-      0.37              0.48
     4.-      0.49              0.55
     5.-      0.46              0.49
     6.-      0.53              0.52
     7.-      0.38              0.48
     8.-      0.37              0.48
     9.-      0.41              0.50
```

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LOOP E 15A AND 15B

ILLEGAL CLASS 3 INTERRUPT
LOOP E 15A AND 15B
GTA

ACU	MEAN	STD
1.-	0.38	0.48
2.-	0.42	0.53
3.-	0.41	0.52
4.-	0.43	0.51
5.-	0.35	0.47
6.-	0.35	0.49
7.-	4.64	0.52
8.-	0.34	0.51
9.-	0.58	0.52
10.-	10.20	0.39
11.-	15.56	0.49
12.-	0.43	0.52
13.-	0.39	0.50
14.-	0.40	0.48

ENTER PRIMARY CONTROL ROW

1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

REAL TIME CLOCK NOT AT 1024 HZ

BEGINNING TEN SECOND REAL TIME CLOCK TEST

DQ

	ACU	AF												
7	11	195	17	318	31	325	10	307	1	90	55	67	42	137
7	14	184	21	214	40	320	12	205	7	157	58	65	46	132
7	15	184	23	215	41	318	2	153	11	329	59	64	47	131
7	15	184	23	213	42	317	13	23	7	0	59	64	49	129
7	16	184	23	213	43	316	13	270	13	197	59	64	49	129
7	15	180	23	211	44	316	14	146	7	82	60	63	49	129
7	16	180	25	211	43	316	18	70	12	5	85	250	89	264
7	16	180	25	209	44	316	15	307	12	256	60	62	49	129
7	16	176	25	211	45	315	19	227	8	153	86	349	89	6
7	16	180	25	211	45	314	20	127	5	45	86	88	89	108
7	16	184	24	210	45	315	24	7	17	310	61	120	86	138
7	16	180	25	211	45	314	30	285	13	210	60	63	49	128

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```
ENTER PRIMARY CONTROL ROW
 1
ENTER FIRST ALTERNATE CONTROL ROW
2
ENTER SECOND ALTERNATE CONTROL ROW
3
BEGINNING TEN SECOND REAL TIME CLOCK TEST

DO
 7    1  270   13  247    0    0    0    0   29   48   60   19    1  180
 7    0    0   13  253    0    0    0    0   26  288   60   19    1  180
 7    1  225   13  247    1  270    1   45   36  165   60   19    2  207
 7    1  180   12  251    0    0    0    0    1   45   60   19    1  180
 7    0    0   13  247    0    0    0    0    0    0   60   19    2  207
 7    0    0   13  247    1  270    0    0   38  225   60   19    1  180
 7    0    0   13  247    0    0    1    0   37  132   60   19    1  180
 7    0    0   12  251    0    0    0    0   43   14   60   19    1  180
 7    0    0   13  247    1  270    0    0   44  301   60   19    0    0
 7    0    0   12  251    1  270    0    0   44  161   60   19    1  270
 7    0    0   13  247    0    0    0    0   43   73   60   19    1  180
 7    0    0   13  249    1  270    0    0   45  334   78  216    0    0
 7    0    0   13  247    0    0    0    0   44  216   61   19    1  180
 7    0    0   13  247    0    0    0    0   46  146   61   18    1  225
 7    0    0   13  247    0    0    1    0   39  292   60   20    0    0
 7    1   90   11  252    0    0    0    0   50  196   60   19    1  180
 7    0    0    1  135    0    0    1   45    0    0    1  180    1  270
```

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```
WILL INPUT BE ON PAPER TAPE? TYPE Y OR N
:Y
RADAR STATUS ERROR DURING PHASE CALIBRATION
DO YOU WANT A PAPER TAPE PUNCHED? TYPE Y OR N
:N
SYSTEM IS READY- TYPE "RUN" TO INITIATE EXECUTION
:RUN

:

PM 20

:

PM993

PM 20

:D2

 PROCESSOR RESPONSE
    LR - LFM    ( 145 MIN)   189
    SR - SP     (  47 MIN)    96
    SR - LFM    (  47 MIN)    73
    MTI - LFM   (  13 MAX)     3


:D2
  INPUT UNDEFINED

:D2
  INPUT UNDEFINED

:D2

 PROCESSOR RESPONSE
    LR - LFM    ( 145 MIN)   139
    SR - SP     (  47 MIN)    96
    SR - LFM    (  47 MIN)    73
    MTI - LFM   (  13 MAX)     1
```

13,130

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```
;
LOOP  E

THIS PROGRAM PROCESSES ACU REPLYS FOR BAD ROWS
ACTIVE TEST NUMBERS ARE
2A THROUGH C

RESPOND--
LOOP  E

THIS PROGRAM PROCESSES ACU REPLYS FOR BAD ROWS
ACTIVE TEST NUMBERS ARE
2A THROUGH C

RESPOND--2A
DO YOU WANT TO MODIFY OR CHANGE CURRENT INSTRUCTION SET
TYPE M OR C OR N   S  ###
Ø6  ##
8  /##
N

SPECIFY ROW NUMBER TO BE TESTED
AS A TWO DIGIT NUMBER FOLLOWED BY TWO SPACES
RESPOND    Ø8

1ØØ TRANSMISSIONS SENT TO ACU     99. ERROR REPLYS RECIEVED

1ØØ TRANSMISSIONS SENT TO ACU    1ØØ. ERROR REPLYS RECIEVED

1ØØ TRANSMISSIONS SENT TO ACU    1 Ø?  . ERROR REPLYS RECIEVED

1ØØ TRANSMISSIONS SENT TO ACU     99. ERROR REPLYS RECIEVED

1ØØ TRANSMISSIONS SENT TO ACU    1ØØ. ERROR REPLYS RECIEVED

1ØØ TRANSMISSIONS SENT TO ACU     99. ERROR REPLYS RECIEVED
```

APPENDIX T
DETAILED TEST PROCEDURE FOR RECEIVE PATTERNS

Detailed Test Procedure for
Receive Patterns
AN/TPS-59

1.0 General Description

Receive antenna patterns of the AN/TPS-59 will be measured by exciting a far-field source with CW energy at a selectable frequency within the radar bandwidth, and measuring the antenna response as a function of the angular position of the beam with respect to the far-field source.

The equipment will be configured according to the block diagram of Figure 1.

There are three types of patterns involved. Two require that the AN/TPS-59 antenna be physically moved with respect to the far-field source, both in azimuth and elevation. The third type involves electronically scanning the receive beam in elevation.

2.0 Test Method

There are 87 receive patterns to be measured and are listed individually in Table 1. Although it is not a requirement that the patterns be taken in this order, the sequence was designed to minimize the set-up time between patterns.

The parameters listed as the column headings are varied as follows:

2.1 Beam

The beam is changed by connecting the recorder input cable to the proper column feed output. The required connections are as follows:

2.1 Beam (Continued)

Beam	Connection	
Σ , Σ (1.5:1)	725016A0241	(J1)
Weather Beam I,	"	(J1)
Weather Beam II,	"	(J1)
CSC^2.	"	(J1)
ΔAz	"	(J3)
ΔEl , ΔEl (1.5:1)	"	(J2)
Low Angle Upper	"	(J5)
Low Angle Lower	"	(J4)
SET-3 (1)	A3 J18	
SET-3 (2)	A3 J17	
SET-3 (3)	A3 J16	

2.2 Frequency

The frequency of the CW source can be changed remotely. The actual value of the frequency is measured using the in-line frequency meter as shown in the block diagram of Figure 1. The frequencies of interest are: F1 - 1222 MHZ, F8 - 1285 MHZ, ~~F15~~ F16 - 1347 MHZ.

2.3 Polarization

The polarization of the radiated energy is changed by rotating the TRANSMITTER dipole feed structure 90°. This will be done remotely at the receive site.

2.4 Array Angle

The array angle is the angle of the AN/TPS-59 array measured with respect to vertical. At 0°, this can be determined by the use of a carpenter's level. To obtain the other angles, the following procedure must be used:

1) Scan the beam electronically below broadside the number of degrees that is designed in the tilt.

2) With the cable connected to the sum (Σ) beam, tilt the array back until the output signal reaches the maximum. The array is now at the desired tilt angle.

2.5 Scan Angle Relative to Broadside

This parameter is under computer control, and is changed via input at the 1538 teletype.

3.0 Pattern Data Collection

Once a given set of parameters is established, the pattern will be taken in one of three ways, depending on the pattern type.

3.1 Azimuth

For an azimuth pattern, the antenna is rotated $\pm 90^{\circ}$ in azimuth from the angular position of the transmitting antenna. The azimuth drive motor is connected through servos to the drive motor of the chart recorder, thus providing the angular position of the antenna.

3.2 Elevation (Static)

These patterns require that the entire antenna tilt back. The elevation drive motor is connected through servos to the chart recorder in order to provide a measure of the angular position of the antenna. The range of these patterns is from a forward tilt angle of 1° to a backward tilt of 40°.

3.3 Elevation (Dynamic)

These patterns are taken with the beam steered electronically in elevation. The start and end angles are variable but should be restricted to ±16° from broadside to avoid introducing grating lobes. The step size is approximately .05°. The computer also provides a stepping signal to a servo connected to the chart recorder, in order to properly relate the chart paper position to scan angle.

4.0 Equipment Status

At least once each 24 hour period, the status of the receive preamps shall be checked using Performance Monitor software, and the information included in the final report.

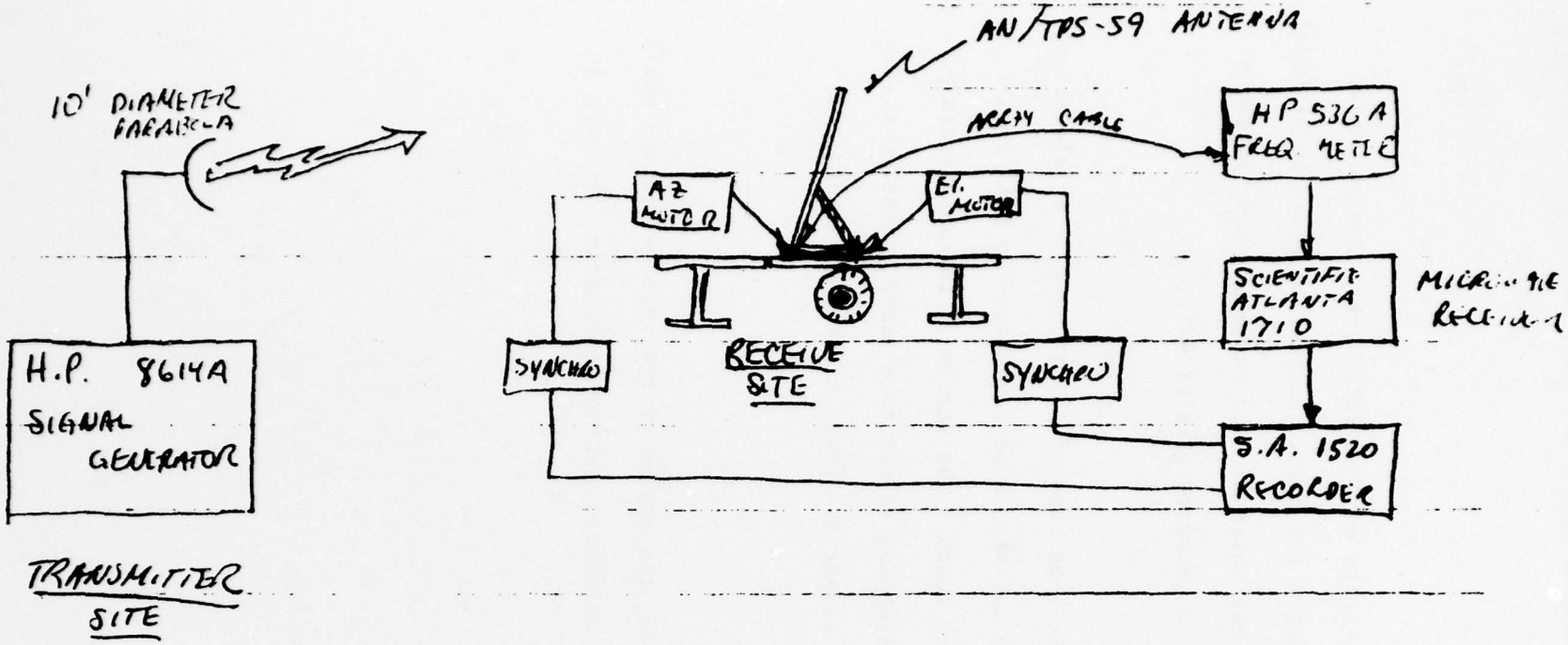


FIGURE 1

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TABLE I

	BEAM	FREQUENCY	POLARIZATION	ARRAY ANGLE	SCAN ANGLE RELATIVE TO BROADSIDE	PATTERN	TYPE
1.	Σ	f1	H	0°	-5° to 16°	El.	Prin. Plane
2.	Δ El						
3.	Σ 1.5:1						
4.	ΔEl 1.6:1				-5° to 16°	El.	Prin. Plane
5.	Σ				0°	Az	Prin. Plane
6.	Δ Az		H				
7.	Σ						
8.	Δ Az	f1			0°	Az	Prin. Plane
9.	Σ	f8	H		-5° to 16°	El.	Prin. Plane
10.	Δ El						
11.	Σ 1.5:1						
12.	ΔE 1.5:1						
13.	Weather Beam I						
14.	Weather Beam II						
15.	CSC				-5° to 16°	El.	Prin. Plane
simultaneous 16.	Σ				0°	Az	Prin. Plane
simultaneous 17.	SET-3 (1)						
simultaneous 18.	Δ Az						
simultaneous 19.	SET-3 (2)						
20.	SET-3 (3)		H				
21.	Σ						
22.	Δ Az	f8			0°	Az	Prin Plane
23.	Σ	f15	H		-5° to 16°	El.	Prin. Plane
24.	Δ El						
25.	Σ 1.5:1						
26.	ΔEl 1.5:1				-5° to 16°	El.	Prin. Plane
27.	Σ				0°	Az	Prin. Plane
28.	Δ Az		H				
29.	Σ						
30.	Δ Az	f15		0°	0°	Az	Prin. Plane

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TABLE 1 (cont'd)

	BEAM	FREQUENCY	POLARIZATION	ARRAY ANGLE	SCAN ANGLE RELATIVE TO BROADSIDE	PATTERN TYPE
31	Σ	f_{15}	A	6°	-11° to 16°	El. Prin. Plane
32	ΔEl				-11° to 16°	El. Prin. Plane
33	Σ				0°	Az Off-Axis
34	ΔAz	f_{15}			0°	Az Off-Axis
35	Σ	f_{8}			-11° to 16°	El. Prin. Plane
36	ΔEl				-11° to 16°	El. Prin. Plane
37	Σ				0°	Az Off-Axis
38	ΔAz	f_{8}			0°	Az Off-Axis
39	Σ	f_{1}			-11° to 16°	El Prin. Plane
40	ΔEl				-11° to 16°	El Prin. Plane
41	Σ				0°	Az Off-Axis
42	ΔAz			6°	0°	Az Off-Axis
43	Σ			12°	-16° to 16°	El Prin. Plane
44	ΔEl				-16° to 16°	El Prin. Plane
45	Σ				0°	Az Off-Axis
46	ΔAz	f_{1}			0°	Az Off-Axis
47	Σ	f_{8}			-16° to 16°	El Prin. Plane
48	ΔEl				-16° to 16°	El Prin. Plane
49	Σ				0°	Az Off-Axis
50	ΔAz	f_{8}			0°	Az Off-Axis
51	Σ	f_{15}			-16° to 16°	El Prin. Plane
52	ΔEl				-16° to 16°	El Prin. Plane
53	Σ				0°	Az Off-Axis
54	ΔAz			12°		
55	Σ			18°		
56	ΔAz	f_{15}				
57	Σ	f_{8}				
58	ΔAz	f_{8}				
59	Σ	f_{1}				
60	ΔAz	f_{1}	H	18°	0°	Az Off-Axis

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TABLE I (cont'd)

	Beam	Frequency	Polarization	Array Angle	Scan Angle Relative to Broadside	Pattern Type
61	Σ	f_1	H	24°	0°	Az (H Axis)
62	Δ Az	f_1				
63	Σ	f_ε				
64	Δ Az	f_ε				
65	Σ	f_{1S}				
66	Δ Az			24°	0°	Az (H Axis)
Simultaneous 67	Σ			-1° to 40°		El (Pitch Plane)
Simultaneous 68	low Angle Upper		H	-1° to 40°		
69	Σ		V	40° to -1°		
Simultaneous 70	Δ El		H	-1° to 40°		
Simultaneous 71	low Angle Lower		H	-1° to 40°		
72	Δ El	f_{1S}	V	40° to -1°		
Simultaneous 73	Σ	f_ε	H	-1° to 40°		
Simultaneous 74	low Angle Upper		H	-1° to 40°		
75	Σ		V	40° to -1°		
Simultaneous 76	Δ El		H	-1° to 40°		
Simultaneous 77	low Angle Lower		H	-1° to 40°		
78	Δ El		V	40° to -1°	0°	
Simultaneous 79	SET-3 (1)		H	-1° to 40°	—	
Simultaneous 80	SET-3 (2)		H	-1° to 40°	—	
81	SET-3 (3)	f_ε	H	40° to -1°	—	
Simultaneous 82	Σ_1	f_1	H	1° to 40°	0°	
Simultaneous 83	Low Angle Upper		H	-1° to 40°		
84	Σ		V	40° to 1°		
Simultaneous 85	Δ El		H	-1° to 40°		
Simultaneous 86	low Angle Lower		H	-1° to 40°		
87	Δ El	f_1	V	40° to 1°	0°	El (Pitch Plane)

APPENDIX U
DETAILED TEST PROCEDURE FOR TRANSMIT PATTERNS

DETAILED TEST PROCEDURE FOR TRANSMIT PATTERNS

AN/TPS-59

1.0 GENERAL DESCRIPTION

Transmit antenna patterns of the AN/TPS-59 will be measured by transmitting a short-range LFM waveform at a PRF different from 1000 pps. The duty factor will be about 10%. The transmitted RF signal will be detected using a 10-foot parabola and a Scientific Atlanta receiver at the Cazenovia test facility transmitter site. Synchro signals will be sent across the valley on telephone lines to control the recorder chart drive. Using these techniques, the TPS-59 transmit radiated power will be measured as a function of angular position.

The equipment will be configured according to the block diagram of Figure 2.

There are three types of patterns involved. Two require that the AN/TPS-59 antenna be physically moved with respect to the far-field detector, both in azimuth and elevation. The third type involves electronically scanning the transmit beam in elevation.

2.0 TEST METHOD

There are 19 transmit patterns to be measured and are listed individually in Table 2. Although it is not a requirement that the patterns be taken in this order, the sequence was designed to minimize the set-up time between patterns.

The parameters listed as the column headings are varied as follows.

2.1 FREQUENCY

Frequency is accurately determined by the TPS-59 system consequently no measurements are necessary.

2.2 POLARIZATION

The receive antenna polarization for all transmit patterns will be horizontal.

2.3 ARRAY ANGLE

The array angle is the angle of the AN/TPS-59 array measured with respect to vertical. At 0°, this can be determined by the use of a carpenter's level. To obtain the other angles, the following procedure must be used:

1) Scan the beam electronically below broadside the number of degrees that is designed in the tilt.

2) With the cable connected to the sum ( ) beam, tilt the array back until the output signal reaches the maximum. The array is now at the desired tilt angle.

2.4 SCAN ANGLE RELATIVE TO BROADSIDE

This parameter is under computer control, and is changed via input at the 1538 teletype.

3.0 PATTERN DATA COLLECTION

Once a given set of parameters is established, the pattern will be taken in one of three ways, depending on the pattern type.

3.1 AZIMUTH

For an azimuth pattern, the antenna is rotated ±90° in azimuth from the angular position of the transmitting antenna. The azimuth drive motor is connected through servos to the drive motor of the chart recorder, thus providing the angular position of the antenna.

3.2 ELEVATION (STATIC)

These patterns require that the entire antenna tilt back. The elevation drive motor is connected through servos to the chart recorder in order to provide a measure of the

angular position of the antenna. The range of these patterns is from a forward tilt angle of 1° to a backward tilt of 40°.

3.3 ELEVATION (DYNAMIC)

These patterns are taken with the beam steered electronically in elevation. The start and end angles are variable but should be restricted to ±16° from broadside to avoid introducing grating lobes. The step size is approximately 0.05°. The computer also provides a stepping signal to a servo connected to the chard recorder, in order to properly relate the chart paper position to scan angle.

4.0 EQUIPMENT STATUS

At least once each 24-hour period, the status of the transmit amplifiers shall be check using Performance Monitor software, and the information included in the final report.

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TRANSMIT PATTERNS

TABLE 2

	BEAM	FREQUENCY	POLARIZATION	ARRAY TILT ANGLE	SCAN ANGLE RELATIVE TO BROADSIDE	PATTERN TYPE
1.	NORMAL TX	F8	H	0°	0°	AZIMUTH PRIN. PLANE
2.	NORMAL TX	F8		0°	-16° to 16°	ELEVATION PRIN. PLANE
3.	WEATHER BEAM I	F8		0°		
4.	WEATHER BEAM II	F8		0°		
5.	CSC^2	F8		0°		
6.	1.5:1 TX	F8		0°		
7.	NORMAL TX	F1		0°		
8.	1.5:1 TX	F1		0°		
9.	NORMAL TX	F15		0°		
10.	1.5:1 TX	F15		0°		
11.	NORMAL TX	F15		6°		
12.		F8		6°		
13.		F1		6°		
14.		F1		12°		
15.		F8		12°		
16.		F15		12°		
17.		F15		-1° to 40°	0°	
18.		F8		-1° to 40°	0°	
19.		F1		-1° to 40°	0°	

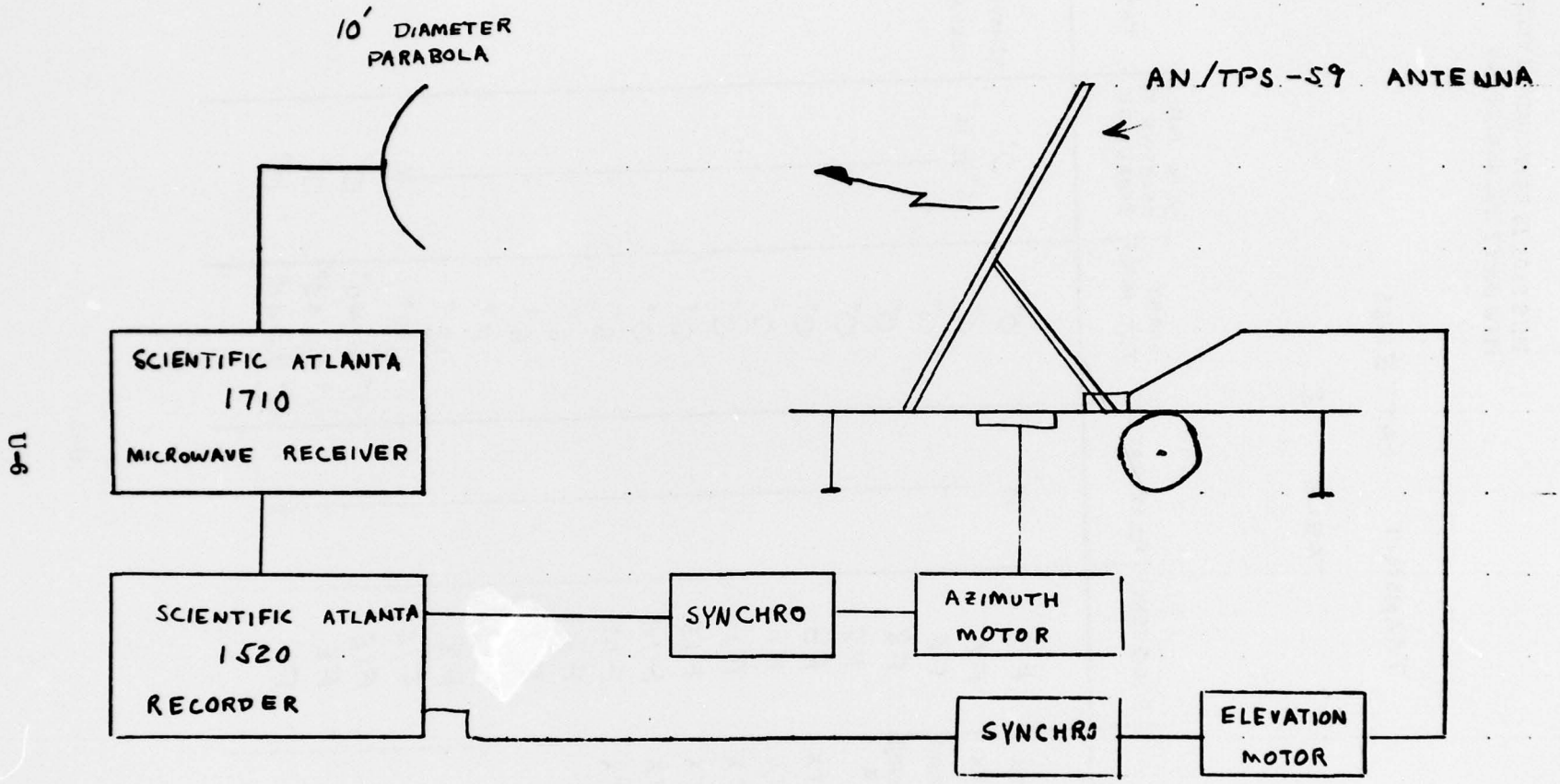

10' DIAMETER PARABOLA
AN/TPS-59 ANTENNA
SCIENTIFIC ATLANTA 1710 MICROWAVE RECEIVER
SCIENTIFIC ATLANTA 1520 RECORDER
SYNCHRO
AZIMUTH MOTOR
SYNCHRO
ELEVATION MOTOR
RECEIVE SITE
TRANSMIT SITE

FIGURE 2